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PLANNING FOR PROBLEMS IN CRISIS MANAGEMENT

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CRISIS MANAGEMENT PROGRAM

Cybernetics Technology Office
DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
Office of Naval Research • Organizational Effectiveness Programs

The Crisis Management Program is designed to develop and transfer crisis management technologies to users in the Department of Defense. These technologies are based on research in crisis management, the behavioral and social sciences, and interactive computer software. The Cybernetics Technology Office of the Defense Advanced Research Projects Agency sponsors the program. Technical progress is monitored by the Office of Naval Research, Organizational Effectiveness Programs.

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This Final Technical Report documents research completed on "Planning for Problems in Crisis Management." Chapter 1 reviews the contract tasking and the project accomplishments. Chapter 2 describes procedures used to select 289 crises since 1946 for greater analysis. Characteristics of the 289 are presented and a sample of 41 is selected for more intensive analysis in Chapter 3, where over 70 different kinds of crisis management problems are examined for the 41 crises. Chapter 4 examines the relationships among the different →

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types of problems based on the results of canonical correctional analysis. Chapter 5 examines the relationships between the environment in which the crisis occurred, the characteristics of the crisis, and the crisis management problems that were observed. Heavy use of regression analysis is made in detailing these relationships. Finally, Chapter 6 discusses the potential uses of the findings for crisis management planning.

PLANNING FOR PROBLEMS IN CRISIS MANAGEMENT

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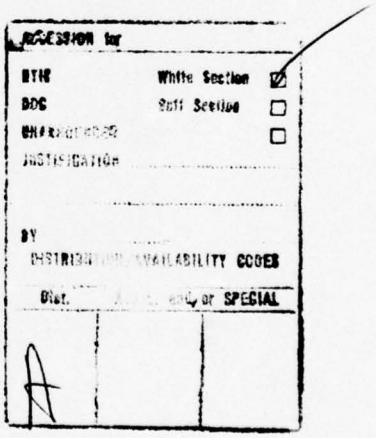

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PROJECT OVERVIEW

Generating forecasts of future crisis conditions or characteristics that have implications for national security planning is an important task within the national security community. Expectations about the future national security environment are utilized for planning, and plans give rise to procurement, force structuring, and other future-directed actions. Thus, large investments of manpower and budget resources within the Department of Defense are based on forecasting and scenarios.

Several dimensions of the future are relevant to defense planning. These dimensions include the general thrust of U.S. policies, developing power balances and political alignments abroad, new and anticipated technological achievements, and the nature of future crisis episodes potentially requiring U.S. military responses. However, forecasting some dimensions of the future is more problematic than others. In particular, it is most difficult to anticipate correctly the specific characteristics of crisis situations. Indeed, crisis anticipation is so problematic that "surprise" is often regarded as one of its defining elements.

If specific crises cannot be predicted with acceptable accuracy in the short-, mid-, or long-range future, perhaps the characteristics of the crises can be distinguished. Systematic attempts can be made to determine whether past crises have recurrent empirical patterns. Once these

crisis characteristics and configurations are distinguished, defense planners can anticipate problems in managing possible crises and perhaps solve them before they occur. To the extent that crisis management involves recurrent difficulties in technology, operational procedures, and training, analyses that isolate the categories of problems experienced in previous crises can suggest some areas where crisis management can be improved.

Research directed toward identifying problem areas in previous politico-military operations has important implications for developing technologies, doctrine, and training for subsequent crisis responses. It provides an important link between the historical parameters of military involvement and planning in crises, and it may suggest ways that modern technologies -- including computer-assisted information and training aids -- can be harnessed to improve the quality of crisis decision-making. By isolating the types of decision problems encountered in past crises and examining whether the types of problems vary over time or geography, this work contributes to more realistically designed training and decision aids. In short, such research maps the historical crisis problem patterns as a guide to parameters for estimating future problem patterns.

Five tasks were involved in the research effort:

1. Identify and Inventory All Post-World War II Crises Involving the United States.
2. Identify and Collect Crisis Variables.
3. Identify Clusters of Crisis Management Problems.
4. Identify Problem Clusters in Different Environments and Activities.
5. Identify Potential Uses of the Research Products for Crisis Planning.

MAJOR RESEARCH ACCOMPLISHMENTS

The research tasks were completed with five accomplishments.

1. Although most social science research indicates fewer than 20 crises since 1964 involving the U.S. Department of Defense, this project identified 289 incidents between 1946 and 1975 that met the definition of "crisis" as extraordinary military management activity. Time plots of these incidents revealed three historical crisis periods: 1946-1953, 1954-1965, and 1966-1975.

2. Analysis of over 70 crisis management problems encountered in developing and executing U.S. policy responses in a sample of 41 crises showed that

    a. The crisis situation developed slowly, but the actual crisis occurred suddenly in more than 40 percent of the cases.

    b. Several crisis management problems arose when U.S. military personnel became involved after the situation had severely deteriorated.

    c. Increasing problems arose involving information handling and indications and warning. Between 1966 and 1975 over 35 percent of the crises developed as the United States was monitoring another crisis.

    d. More frequent force status, training, availability, and disposition problems were observed. Force readiness was a problem in 50 percent of the post-1966 crises (compared to only 20 percent prior to 1966). Communications security seriously constrained operational information handling in over 40 percent of the cases after 1966.

    e. Crisis responses slowed appreciably between 1946 and 1975 as increased effort was devoted to interagency coordination.

f. Domestic political (39 percent of the crises) and international political considerations (over 50 percent of the crises) were very important to crisis decision-making by the 1966-1975 crisis period and increasingly constrained U.S. Government responses.

3. Significant relationships were discovered among the crisis management problem clusters, suggesting that the occurrence of certain specific types of crisis problems leads to other crisis problems. Particularly strong relationships were found between situational and operations communications problems, situational and national-level logistics problems, and information inadequacy in operations and national-level logistics problems.

4. The key predictors of each crisis management problem cluster were identified. The consistently strongest predictors of variations in crisis management problems in the 41 post-World War II crises were

   a. Limited time available for crisis decision-making,

   b. Severe threat to U.S. interests,

   c. U.S. personnel participating directly in the crisis response,

   d. The crisis buildup occurring in less than 30 days, and

   e. Crisis activities lasting more than 30 days.

5. Important variations were found in the strength of the predictors across various types of crisis management problems.

   a. Crisis event and reaction problems were best predicted by the severity of threats to U.S. interests and direct participation by U.S. personnel in the crisis response.

   b. Operations problems were best predicted by crisis buildups in less than 30 days, precrisis monitoring not focused on ensuing events, limited time available for crisis decision-making, and severe threats to U.S. interests.

c. National-level decision-making problems were most closely associated with crisis buildups and crisis activities that lasted more than 30 days.

ASSESSING THE FINDINGS FOR CRISIS MANAGEMENT PLANNING

A careful review of the crises points to several areas with significant, recurrent problems. Identifying these may guide actions to minimize future crisis problems. The 41 crises were intensively analyzed to identify repetitive groupings of factors that characterized the nature of the crisis and its significant crisis management problems. These analyses indicated that certain crisis management problems are likely, depending on the characteristics of the crisis environment in which they occur. Moreover, the presence of some crisis management problems makes other problems more likely. The empirical findings generated in this research project suggest that planning for crisis management can be improved by

- Renewed attention to short-term forecasting,
- Better indications and warning analysis to provide decision-makers with more decision time,
- Executive aids to improve the speed of information usage and the quality of analysis performed,
- Systematically attacking the intra- and interagency coordination problems through decision-training simulations and other exercises, and
- Reducing force status problems so that military assets are positioned and trained as needed for the crisis response.

One area where problem emphasis in ARPA/CTO can have an important impact is in developing executive aids that assist the planning process. Since crisis recognition and the coordination required for a crisis response are recurrent problems, an executive aid that responds by signaling the kinds of problems that are likely given specific conditions would be particularly valuable. Once the likely problems are identified, assistance in coordinating responses across the agencies could also be provided.

HUMAN FACTORS AND CRISIS MANAGEMENT TECHNOLOGIES

Introducing new technologies into crisis management in the Department of Defense may change the way that newly acquired information is handled and policy response coordination is accomplished. Suggested changes that seem minimal to those outside the planning process may be considerable to those directly involved. Hence, careful attention to the need to operate within existing institutional constraints is required.

Since it is always easier to continue existing procedures (despite observed shortcomings) than to venture into something different, some managers tend to resist attempts to introduce new technologies into crisis management planning. Some initial disorientation is also likely when new technologies are introduced. Hence, four steps are key to reducing this resistance and showing that the new technologies are worthwhile.

- Demonstrable success. New technologies must be designed around highly probable successes rather than on more speculative areas. Without demonstrable assistance to users, the tools will continue to be viewed as intrusions on the life of the crisis planner.

- Tractable problems. Grand projects should be analytically refined into problems that can be dealt with in sufficient detail to make the solutions interesting to the analysts at the end of the development period. Product design should involve user inputs. Action officers may be unable to articulate what is wanted. At other times, they may have the solution and merely need a technology to assist them.

- Reactive user involvement. Since planners are normally overburdened, additional time demands are likely to be met with increasing resistance. Where possible, available information should be digested and initial design made so that the user can react to specific recommendations.

- Training and socialization of key personnel. After demonstrable success, the key to technology transfer is training in use of the executive aids. Key management personnel must be convinced that production will be speeded and that a better product will result as action officers have more time to plan responses. Thus, all involved must be socialized to the new aids through incentives for use and responsiveness to shortcomings seen by the users.

Work should proceed on information storage, retrieval, and manipulation aids to meet recurrent analysis problems. Input in these areas from those knowledgeable in the process is central to projection selection. Wisely chosen, the problems selected will be as important at the end of the development as at the start. Moreover, given the state of technology, they will have a higher chance of success.

Research on aids to study association between characteristics should be continued. Emphasis should be placed on readily usable pattern identification and search procedures that are formatted for users. These should involve basic data displays and more elaborate aids to identify patterns and variations over time in a highly focused manner. Finally, initial work should begin on complex impact assessment tools, a major area of uncertainty for developing executive aids. A class of problems should be identified that can be dealt with over the required research and development time and still be relevant to analysts upon completion. Toward this end, surrogates for current users (such as recently retired military personnel) can be used for testing and development.

Whether this research agenda or an alternative is followed, it is important to meet the four principles for developing and implementing executive aids in the crisis management process. If care is not taken to meet each of the criteria, even the best tools will not gain marginal acceptance.

CHAPTER 1. INTRODUCTION

PROJECT OVERVIEW

This research effort examines problems encountered by the Department of Defense in managing domestic and international crises between 1946 and 1975. Since the very nature of crisis activity -- sudden occurrences of major significance with limited warning -- makes it difficult to forecast its occurrence, this research focuses on delineating the recurrent clusters of problems encountered in crisis management activity. Moreover, it examines whether these different problem clusters are associated with different political environments, time periods, or other relevant variables. Finally, it identifies the potential uses for these research products in planning for crisis management within the Department of Defense.

To achieve these goals, five tasks are involved in the research effort:

1. Identify and Inventory All Post-World War II Crises Involving the United States.
2. Identify and Collect Crisis Variables.
3. Identify Clusters of Crisis Management Problems.
4. Identify Problem Clusters in Different Environments and Activities.
5. Identify Potential Uses of the Research Products for Crisis Planning.

The Interim Technical Report detailed efforts undertaken on the first three research tasks. This Final Technical Report reviews all major project efforts and accomplishments particularly emphasizing the last two research tasks.

IDENTIFYING POST-WORLD WAR II CRISES

Unexpected events requiring or leading to a military response occur in a variety of arenas. In the international arena, threats of warfare or actual violence between other nations have often led to military crisis management activity by the United States. Internal developments in foreign nations, such as coups or threatened revolutions, have drawn military responses. At times the Department of Defense has become involved in emergencies in the United States such as those posed by inner-city rioting. Isolated incidents -- such as the unexpected loss of aircraft or ships -- terrorist activity, and sudden humanitarian needs have required extraordinary military response.

Planning for future crises must consider the need for responses in a variety of arenas. Hence, the first research task was to produce an inventory of post-war crises in these and other arenas by broadening the inventory of international crises developed in previous research supported by the Defense Advanced Research Projects Agency (ARPA) (CACI, 1975). This inventory included crisis incidents involving some extraordinary military management activity. Episodes that might otherwise be considered crises but that did not require some type of U.S. military action -- even increased surveillance -- were not included. To accomplish this task, three milestones (summarized in Chapter 2) were successfully achieved.

1. Develop a crisis definition centered on the use of U.S. military capabilities, including either equipment, facilities, or personnel.

2. Review existing lists of international crises since 1946.

3. Produce a list of international and domestic crises since 1946.

IDENTIFYING AND COLLECTING CRISIS VARIABLES

This research describes the clusters of crisis management problems that have occurred in various types of post-World War II crises. To achieve this objective, two types of variables were identified and collected. The first are the "problem" variables, each of which describes a type of crisis management problem. For example, data on communications, information, logistics, and personnel problems encountered during the crises have been formulated. The second variable type describes salient aspects of the environment in which these problems occur, including the ongoing environmental monitoring at the time of the crisis, the nature of the crisis, and the types of responses made to the crisis. Here the missions, jurisdictions, and responsibilities of the military forces involved were particularly relevant.

Successful completion of this task required that seven milestones be accomplished as described in Chapter 2 of this report.

1. Develop crisis characteristics measures.

2. Develop crisis environment measures.

3. Develop crisis response measures.

4. Code international and domestic crises on crisis characteristics measures.

5. Code international and domestic crises on crisis environment measures.

6. Code international and domestic crisis response measures.

7. Prepare the data for computer analysis.

IDENTIFYING CLUSTERS OF CRISIS MANAGEMENT PROBLEMS

This research produced systematic information on the problems encountered in selected crises identified in the crisis inventory. To the extent that different types of problems tend to co-occur with others, one can describe the information about problems as a set of problem clusters. These clusters, in turn, may simplify further analysis as convenient summarizing vehicles that can be used to describe categories of problems.

To accomplish this research task, several sets of research milestones were completed. In the first set, the basic relationships among the different crisis characteristics were systematically examined. These research activities included work to

1. Evaluate alternative statistical clustering procedures for the crisis data;

2. Select an appropriate statistical clustering procedure for data analysis on the crises;

3. Apply a clustering procedure to the crisis data to develop crisis problem clusters;

4. Check the temporal and geographical stability of the crisis problem clusters;

5. Evaluate the substantive meaningfulness of the crisis clusters.

Once the basic relationships were examined, a more detailed set of crises was chosen and coded for the general patterns identified for all post-war crises. Hence, three milestones were completed.

1. Select a sample of 41 crises for more detailed analysis of crisis problems.

2. Develop a detailed list of crisis management problem characteristics from the crisis literature and informed military judgment.

3. Code this crisis management data for each crisis.

Chapter 3 of this Final Report details the final clusters of crisis management problems coded for the 41 crises sampled from the total set of 289 crises since World War II.

IDENTIFYING PROBLEM CLUSTERS IN DIFFERENT ENVIRONMENTS AND ACTIVITIES

To some extent, the problem clusters that occur in managing crises are related to the crisis environment, the crisis characteristics, and the crisis plans and responses. For example, the geographical location of a crisis -- one potential problem for crisis management -- has a definite impact on the nature and seriousness of the communications problems encountered. Similarly, the problems of coordinating multilateral activity are different than those encountered in coordinating unilateral activity.

Once the basic problem clusters were identified, the research focused on how the particular clusters are associated with different crisis environments and activities. As a result, a research effort in the second half of the study attempted to produce statements of the relationships among crisis environments, characteristics, responses, and problem clusters. The value of such observations for crisis management planning lies in the assistance they offer in anticipating problems that would occur if crises were to erupt in various environments. Accordingly, attempts were made (reported in Chapter 5 of this report) to to formulate conditional statements on the relationships among these sets of variables.

Developing evidence on these types of relationships was a major focus during the second half of the project. Accordingly, six milestones were completed under Task 4 of the contract effort.

1. Select the most appropriate statistical procedure to examine relationships among crisis characteristics, environment, response, and management problems.

2. Evaluate the relationship between the crisis environment and the crisis management problems.

3. Evaluate the relationship between the crisis characteristics and the crisis management problems.

4. Evaluate the relationship between crisis response and crisis management problems.

5. Formulate conditional statements relating these sets of variables to each other.

6. Examine how the problems of crisis management are associated with each other.

Chapters 4 and 5, respectively, of this report present the crisis problems, the patterns found among the clusters of crisis management problems, and the empirical relationships of linkages among them.

POTENTIAL USES OF PRODUCTS FOR CRISIS PLANNING

The product of the previous research steps is a set of conditional statements about the types of problems that are likely to be encountered in different crisis environments. This product can be utilized in crisis management planning, as illustrated in Chapter 6 of this Final Technical Report.

Plans cannot be generated for every possible crisis; hence, priorities for crisis planning are required. Priorities can be based on subjective probabilities of crises in different areas -- giving priority to the most probable crises -- and/or can be based on the priorities of different countries or regions in terms of U.S. national interest in those areas. However, these priorities alone are not adequate guides for the planner who must anticipate and plan for problems in different areas. The results of this research can help the planner by identifying which crisis management problems are most likely to occur under varying conditions.

To bring together these types of concerns and to translate the research findings into materials that are useful in the short run to defense planners and in the long run for research and development planning at ARPA, the Final Report of the project completes three milestones, as shown in Chapter 6.

1. Assess the implications of the research findings for crisis management and planning.

2. Make recommendations on utilizing the findings for crisis management and planning.

3. Evaluate what new human factors problems may arise in crisis management with selected new technologies.

In short, this Final Technical Report summarizes and translates the major research findings into suggested actions for ARPA and others in the Department of Defense.

CHAPTER 2. DESCRIBING CONTEMPORARY CRISES

INTRODUCTION

Forecasting potential future crisis conditions and characteristics is important since expectations about future national security environments are used for military planning. These plans, in turn, are central to a large number of efforts in the Department of Defense, including research and development priorities, procurement, force structuring, force positioning, and other future-directed actions. In short, large investments of manpower and resources are made based on the plans developed in response to various forecasts of and scenarios about the near-, mid-, and long-range future.

Despite its importance to the planning process, forecasting the occurrence of specific future crises is extremely problematic. It is very difficult to anticipate correctly the specific characteristics of a specific crisis situation. In fact, the occurrence of a specific crisis is so difficult to predict that some scholars (Herman, 1969a, 1969b; Holsti, 1972) have included "surprise" as one defining element.

If specific crises cannot be predicted with acceptable accuracy in the short-, mid-, or long-range future, perhaps the characteristics of the crises can be distinguished. Systematic attempts can be made to determine whether past crises have recurrent empirical patterns. Once these crisis characteristics and configurations are distinguished, defense planners can anticipate problems in managing possible crises and perhaps solve some problems before they occur. To the extent that crisis

management involves recurrent difficulties in technology, operational procedures, and training, analyses that isolate the categories of problems experienced in previous crises can suggest some areas where crisis management can be improved.

Research directed toward identifying problem areas in previous politico-military operations has important implications for developing technologies, doctrine, and training for subsequent crisis responses. It provides an important link between the historical parameters of military involvement and planning in crises, and it may suggest ways that modern technologies -- including computer-assisted information and training aids -- can be harnessed to improve the quality of crisis decision-making. By isolating the types of decision problems encountered in past crises and examining whether the types of problems vary over time or geography, this work contributes to more realistically designed training and decision aids.

This chapter summarizes an extensive effort to inventory crises that the United States has been involved in or acted to avoid becoming in- in between 1946 and 1975. After developing an inventory of all such crises since 1946, a number of characteristics of each were coded and examined to determine patterns present in the crisis environment, crisis involvement, the nature of the crisis, and the responses made by the U.S. Government. Then, a sample of these crises was drawn for more intensive analysis.

CRISIS OCCURRENCES SINCE 1945

Some Definitional Issues

Analyses of activities before, during, or after crises -- including the behavior of individuals, decision-making groups, participating countries,

or international systems -- comprise a significant portion of the recent literature on international politics. While a plethora of definitions of what a crisis involves has arisen within this literature, the concept of "crisis" has many meanings and few commonly agreed upon components. Yet within this confusion, three distinct orientations toward how to identify a crisis exist.

First, crises have been defined from a decision-making perspective in studies that probed the behavior of individuals and decision-making groups. Studies of communications flows among participants in crises (Zinnes, et al., 1972), the size of decision groups (Paige, 1968; Shapiro and Cummings, 1976), patterns of decisions made (Herman, 1969b), or the general social psychological characteristics of the situation (Shapiro and Gilbert, 1975) illustrate this orientation. The major focus within this perspective has been to emphasize the extraordinary nature of crisis decision-making, such as the change from routine to ad hoc decision-making groups.

A second perspective views "crisis" through changes in the patterns of interaction among participating countries (McClelland, 1968, 1961). Operationally, this definition involves observed changes in the rate of interactions and transactions between countries at specific time periods. The number and types of these exchanges between countries are expected to change dramatically during crises. After the crisis, they may return to a normal state. Accordingly, one way to identify crises analytically is through post hoc searches for changed interaction patterns between major countries.

The third perspective, associated with Oran Young (1968), focuses on "crisis" as a change in the international system. An important and lasting interruption to the patterns and relationships in the international system occurs during a crisis. For example, historians of the period (Schlesinger, 1965) viewed the Cuban missile crisis as a watershed in U.S.-Soviet relations that launched the movement toward detente. Although defining "crisis" as a characteristic of change in the international system has been seriously criticized (Herman, 1972: 8-9) and found empirically wanting (Phillips and Lorimor, 1974), the notion of a major crisis as an impetus to new directions and orientations in parts of the international system is clearly adhered to by some scholars and practitioners.

Toward a More Operational Definition of "Crisis"

No existing crisis definition is sufficiently focused to evaluate problems in crisis management. While each has useful components, existing definitions are limited. Rather than emphasizing the nature of the event, a more useful perspective for evaluating problems in crisis management focuses on the decision-making perspective and the support for decision-making within the Department of Defense. Thus, increased attention should be given to identifying crises by focusing on changes in the types and tenor of military management activity.

The present research emphasizes "crisis" as an extraordinary decision-making activity in which existing decision patterns are disrupted by an emergency. Once this occurs, new and often preprogrammed military management activities commence. Since these changes in military management activity under unusual circumstances are central to studying

crisis management in the Department of Defense the crisis definition used in this project stresses that a "crisis" is

> a period of increased military management activity at the national level that is carried on in a sustained manner *under conditions of rapid action and response resulting* from unexpected events or incidents that have occurred internationally, internally in a foreign country, or in the domestic United States and that have inflicted or threatened to inflict violence or significant damage to U.S. interests, personnel, or facilities.

Further refining this definition, each incident identified as a crisis had to meet at least one of the following criteria: (1) direct involvement of U.S. military forces in the incident; (2) a military decision on the incident required or made; (3) any subsequent military involvement of U.S. forces; (4) an existing threat of violence or significant damage to U.S. interests, personnel, or facilities; or (5) the need for rapid military action and response. Moreover, instances of humanitarian assistance or military action during a war (such as Korea or Vietnam) after commitment of U.S. forces were not included in the crisis listing. Once these criteria were established, an inventory of incidents since 1946 that met the definition was developed.

Developing A Crisis Inventory

With "crisis" operationally defined, an inventory of incidents that matched the criteria was created in two stages. First, a large number of public sources were canvassed to identify major diplomatic, economic, military, or political incidents between 1946 and 1975 that appeared to meet

at least one of the criteria for the crisis definition. Second, the contents of the initial list were closely examined to eliminate incidents that did not actually meet at least one criterion.

Initial formulation of the "candidate" crises -- that is, incidents that were thought to meet one of the criteria for inclusion under the definition -- involved reviews of existing reports, anthologies, public data sources, yearbooks, and critical event compilations to generate a working list.[1] Basic information on the nature and timing of the incidents was compiled and a chronology developed. Redundant incidents (often reported in slightly different form in different sources) were eliminated. Once consolidated, the list of major diplomatic, international economic, military, or political incidents that appeared to fulfill at least one of the defining criteria was constructed.

This initial list of crisis incidents was carefully screened to ensure that each entry met at least one of the operational criteria for crises used for this study. The closer examination caused removal of a number of incidents that did not meet at least one criterion. In the end, a more more refined list of incidents that met the definition of crisis was developed. Almost 290 crises (presented in Appendix A) are on this list, including both domestic U.S. and international incidents. As Figure 1 illustrates the annual frequency of crises has varied considerably over the 30 years from 1946 to 1975. The greatest number occurred in 1964 (18)

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[1] These sources included the New York Times Index, the Washington Post, Secretary of Defense Year-End Report (1946-1975), Secretary of the Army Year-End Report (1946-1975), Cady (1967), CACI (1975), Britannica Book of the Year (1946-1975), Deadline Data, and Waters, et al. (1975).

1953 (17). The fewest occurred in 1966 (5), 1946 (6), and 1972 (6). An average of almost 10 crisis incidents occurred each year from 1946 to 1975.

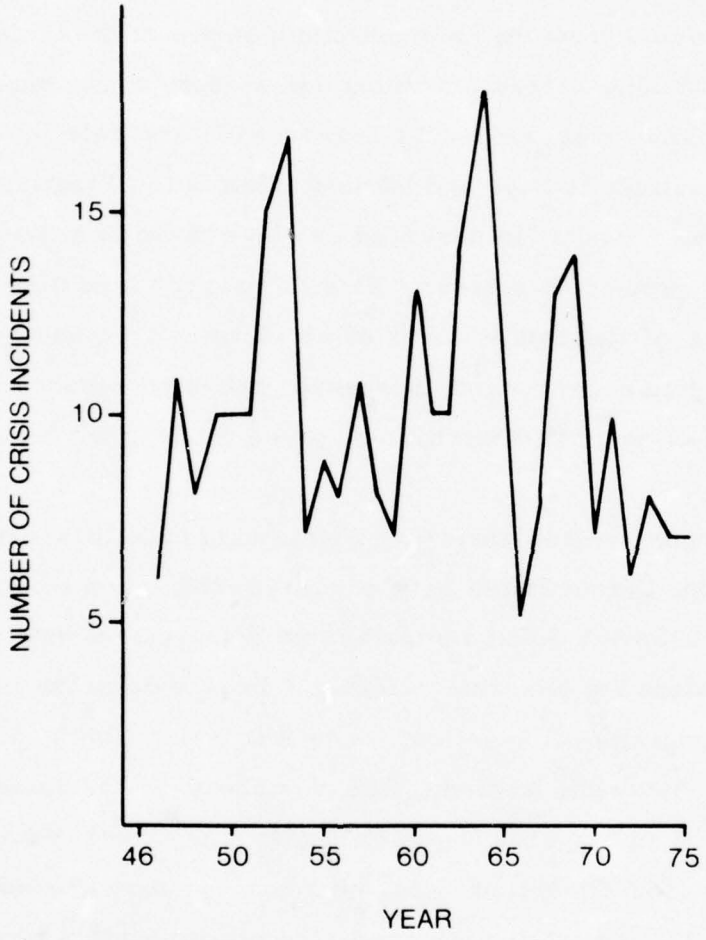

Figure 1. Time Plot of Crisis Incidents

The time plot in Figure 1 suggests at least three post-World War II crisis periods. The first crisis period, from 1946 to 1953, is marked by a generally steady increase in the number of crises up to 1953 and a

sharp decline in 1954. This was a period of extreme confrontation between the United States and the Soviet Union when the United States and its allies were pressured by a Stalinist-oriented adversary. A second crisis period, from 1954 to 1965, saw movement in the foreign policies of the superpowers from the confrontation politics of the middle- to late-1950's to increasing crises involving one or both of the superpowers in Third World countries and an increased military role in events that involved domestic activities and humanitarian aid. Finally, a third period, from 1966 onward, is observed in which there is a downward trend in the annual number of crises. This downward trend may empirically represent one of the implications of an increased emphasis on detente between the superpowers and increased domestic responsibilities (including controlling civil disturbances) given to the U.S. military.

Not surprisingly, crises involving extraordinary military management activity by the United States have occurred most often where the United States and the Soviet Union compete most heavily or where the military has been assigned a key role. Table 1 breaks down the crisis occurrences by geographical location, using the Joint Chiefs of Staff (JCS) regions, and by crisis period. The periphery of the Soviet Union and China, as well as the area covered under the North Atlantic Treaty Organization (NATO) shield, are the most common grounds for crisis occurrences. Three other regions -- Central and South America, Middle East-North Africa, and South Asia-Indian Ocean-sub-Saharan Africa -- are particularly important in the period from 1954 to 1965 as major power competition over less-developed countries in these areas drew increased attention from the U.S. military. Finally, crises involving extra military management activity in North America (primarily in the United States) became increasingly important during the last two crisis periods. Involvement of the U.S. armed forces in restoring domestic order, as

TABLE 1

Geographic Breakdown of the Crises[a]
(percentages of crises in the period)

	1946-1975	1946-1953	1954-1965	1966-1975
East Asia and Pacific Area	26.8	37.0	25.8	18.3
Eastern Europe-Soviet Union	15.9	30.9	10.6	9.8
Western Europe, Mediterranean Atlantic	13.2	13.6	11.4	15.9
Central and South America	11.9	3.7	19.7	7.3
Middle East and North Africa	10.2	9.9	9.1	12.2
North America	9.5	2.5	6.8	20.7
South Asia and Sub-Saharan Africa	8.5	1.2	10.6	12.2
Multiple Regions[b]	2.4	0.0	3.0	3.7
Polar	1.0	1.2	1.5	0.0
Space	0.7	0.0	1.5	0.0

[a] Breakdowns using JCS regional classification.

[b] Code used where the crisis overlapped existing regions.

public facilities were desegregated and urban riots were quelled, increased the extent and variety of military management activity that reached crisis levels.

DESCRIBING CRISIS BEHAVIOR SINCE 1945

Twenty characteristics were coded for 289 crises in an attempt to characterize the international environment in which the crisis occurred, the types of responses made to the crisis, the nature of the threat, and the decision-making constraints that accompanied the crisis activity. This section reviews these crisis characteristics and examines some basic relationships among them.

Describing the Crisis Responses

Four variables -- U.S. objectives, U.S. response, speed of crisis resolution, and crisis outcome -- were coded to capture the various steps taken, goals sought, necessary speed of action, and results obtained for the 289 crises. Once coded, the distributions on each were aggregated for the three crisis periods identified in the last section. Table 2 clearly shows that both U.S. objectives and responses to domestic and international crisis activities have changed since 1945. Over time the United States has increasingly sought to maintain or restore the status quo and has become more involved in direct participation in the crises. Noninvolvement, both as objectives and responses, has occurred less frequently.

U.S. Government objectives and interests have been advanced less frequently over the crisis periods and by 1966-1975 over 60 percent of the

TABLE 2

Distribution of Crisis Responses by Crisis Period
(percentage)

Variables and Categories	1946-1953 (n=79)	1954-1965 (n=125)	1966-1975 (n=85)
U.S. Objectives			
Noninvolvement	8.9	10.5	3.5
Maintain/restore status quo	73.4	72.6	77.6
Change previous status	17.7	16.9	18.8
U.S. Response			
Noninvolvement	13.9	16.1	10.6
Mediation	3.8	4.8	2.4
Assistance	16.5	12.9	9.4
Direct participation	35.4	35.5	44.7
Confrontation	30.4	30.6	32.9
Speed of Crisis Resolution			
Within 7 days	35.4	29.6	40.0
Within 8-30 days	27.8	20.0	11.8
Over 30 days	36.7	50.4	48.2
Crisis Outcome			
U.S. objectives/interests advanced	34.2	35.2	27.1
U.S. objectives/interests unaffected	39.2	28.0	11.8
U.S. influence lessened	26.6	36.8	61.2

crises produced lessened U.S. influence. Moreover, the possibility of U.S. interests remaining unaffected by the crisis declined from 39.2 to 11.8 percent between 1946-1953 and 1966-1975. The resulting crises generally required more time to resolve as a greater number took over 30 days to end in 1966-1975 than in 1946-1953. At the same time, more crises are resolved in less than 1 week than in previous periods. Hence, crises increasingly involve either extremely rapid or more drawn-out resolution, as those lasting between 8 and 30 days were less frequent by the mid-1960's. Once resolved, however, the results were increasingly disadvantageous for the United States.

Describing Indications and Warning in Crises

The 289 crises were coded on precrisis activity and environment (routine, tense, or decisions to move to increased readiness), the duration of the precrisis activity (from no warning to more than 30 days warning, the awareness of the possibility that a crisis could occur (ranging from an anticipated crisis to one in which the events are a surprise to the observers), and the speed with which the threat developed over time. Precrisis activities have been increasingly tense over the three crisis periods but have occurred less frequently without significant advanced warning and more frequently with over 30 days warning.[2] Correspondingly, the crises have been anticipated slightly more frequently over time as 10 percent fewer crises over the three periods occurred in less than 7 days. At the same time, as Table 3 shows, more threats have taken over 7 days to develop.

[2] As a rough measure, a change of ±5 percent is used to characterize an important change.

TABLE 3

Distribution of Indications and Warning Variables by Crisis Period
(percentage)

Variables and Categories	1946-1953 (n=79)	1954-1965 (n=125)	1966-1975 (n=85)
Precrisis Activity			
Routine	35.4	24.8	29.4
Tense	39.2	50.4	50.6
Increased readiness	25.3	24.8	20.0
Duration of Precrisis Activity			
No warning	49.4	31.2	35.3
Less than 30 days	22.8	25.6	22.4
More than 30 days	27.8	43.2	42.4
Awareness of Crisis Possibility			
Anticipated	34.2	40.8	38.8
Uncertainty	30.4	24.8	24.7
Surprise	35.4	34.4	36.5
Speed of Threat Development			
Less than 7 days	67.1	51.2	57.6
More than 7 days	32.9	48.8	42.4

Relating Crisis Warning and Crisis Resolution

Statistical analysis of the crisis data indicates that the duration of precrisis activity and the speed of threat development are most commonly associated with crisis resolution. Rapidly developing threats across all three time periods are related to direct U.S. participation aimed at maintaining or restoring the status quo. The duration of precrisis activity between 1954 and 1965 is associated quite differently with response patterns, however, as "no warning" leads to confrontation by the United States.

At the same time, extended precrisis activity is almost equally likely to produce direct U.S. involvement, indirect involvement through assistance to the participants, or noninvolvement. By 1966-1975 both no warning and extended precrisis activity are associated with U.S. participation or confrontation in the crisis. During all three crisis periods, no crisis warning was associated with quick (less than 7-day) crisis resolution activity. No precrisis warning most commonly occurred when U.S. interests and objectives were adversely affected between 1946-1953. No warning was also related to reduced U.S. influence between 1954-1965 and 1966-1975. Extended precrisis monitoring activity produced positive outcomes for the U.S. Government between 1946-1953 but did not increase U.S. influence after 1954.

Finally, awareness of the possibility of a crisis co-occurs with U.S. crisis participation or adoption of a confrontation posture. Anticipated crises led to either quickly resolved crises or extended solutions between 1954-1965. Surprise was equally likely to result in any of these types of crisis resolution in 1954-1965. By 1966-1975 surprise was most strongly associated with a quick U.S. response.

Crisis Responses and Crisis Involvement

Types of crisis involvement were coded for each crisis. Since the four -- confrontation between two or more large powers, confrontation between two or more large powers (one of which is not the United States), confrontation between the United States and a small country, and confrontation between two or more small powers -- are mutually exclusive, a number of the statistics presented in Table 4 are heavily weighted toward the "nonapplicable" code. Moreover, a number of the crises are domestic actions in the United States that do not have any international involvement.

Despite the problem of "nonapplicable" codes, Table 4 suggests that there were almost 10 percent fewer confrontations over time between two or more major powers if the United States was a party. At the same time there have been fewer confrontations to which the U.S. Government is not a party or does not have vital interests. Finally, the number of confrontations between the United States and one or more small powers (where no other large power has vital interests) is rapidly increasing.

Distribution of the Crisis Descriptors

Six crisis descriptors coded for each of the 289 domestic and international crises are distributed over the crisis time periods as shown in Table 5. Two descriptors characterize the type of crisis -- domestic, international; political, military, or both -- and two others cover the extent of the threat to U.S. interests and the strategic implications of the dispute. Finally, two variables depict the decision time available to the crisis decision-makers and the duration of the crisis activity for which extraordinary military management activities must be maintained.

TABLE 4

Distribution of Crisis Involvement by Crisis Period
(percentage)

Variables and Categories	1946-1953 (n=79)	1954-1965 (n=125)	1966-1975 (n=85)
Between Two or More Large Powers[a]			
United States is a party	38.0	39.2	28.2
United States is not a party	3.8	0.8	1.2
Not applicable[b]	58.2	60.0	70.6
Between Two or More Countries, Including at Least One Large Country Other Than the United States			
At least one party vital to U.S. interests	7.6	5.6	0.0
None of the parties vital to U.S. interests	2.5	4.0	2.4
Not applicable[b]	89.9	90.4	97.6
Between the United States and One or More Small Powers			
Where another large power has vital interests	12.7	12.8	11.8
No other large power has vital interests	11.4	7.2	21.2
Not applicable[b]	75.9	80.0	67.1
Between Two or More Small Powers			
At least one party vital to U.S. interests	3.8	5.6	9.4
No parties vital to U.S. interests	0.0	4.8	1.2
Not applicable[b]	96.2	89.6	89.4

[a] The United States, the Soviet Union, China, Japan, United Kingdom, France, and the North Atlantic Treaty Organization (NATO) are considered "large powers" in this research.

[b] A number of the crises are domestic activities; Others refer to only one type of involvement. Hence, a "not applicable" category has been included. Domestic incidents are not recorded. Thus, the totals without "not applicable" do not equal 100 percent even when summed across the different involvement types.

As Table 5 illustrates, there has been a shift to more domestic crises in recent years, although the preponderance of crises involving extraordinary military management is still international. The disputes have become more political and politico-military over the years and less predominantly military. They continue to be non-nuclear, but increased numbers by 1966-1975 posed severe threats to U.S. interests. At the same time, relatively fewer crises required rapid action at the outset and more lasted over 30 days.

Relating Crisis Descriptors and Crisis Resolution

The duration of crisis activity, the nature of the crisis, and the decision time available in the crisis are most commonly related to the crisis resolution variables. For the most part, either short (under 7 days) or extended (over 30 days) periods are associated over time with direct U.S. involvement in the crisis. Only from 1946 to 1953 is some variation in this pattern observed as extended crisis duration was associated with U.S. assistance to one of the parties instead of direct involvement. Generally, however, the U.S. responses have been direct participation or confrontation posturing.

Crisis duration was similarly associated with crisis response speed as short duration was associated with quick response, and extended durations co-occurred with extended response times across each crisis period. However, the duration of the crisis was equally likely to produce either a positive or negative crisis outcome. Short duration most commonly produced status quo or negative outcomes between 1946-1953, either negative or positive outcomes between 1954-1965, and negative outcomes from 1966 onward. Extended crisis duration produced either

TABLE 5

Distribution of Crisis Descriptors by Crisis Period
(percentage)

Variables and Categories	1946-1953 (n=79)	1954-1965 (n=125)	1966-1975 (n=85)
Crisis Activity			
Domestic	17.7	16.1	22.4
International	82.3	83.9	77.6
Nature of Crisis			
Political	22.8	16.0	29.4
Military	46.8	42.4	18.8
Both	30.4	41.6	51.8
Threat to U.S. Interests			
No significant threat	25.3	34.4	31.8
Some threat	68.4	52.0	51.8
Severe threat	6.3	13.6	16.5
Strategic Implications			
Non-nuclear	98.7	96.8	98.8
Nuclear	1.3	3.2	1.2
Decision Time			
Rapid reaction required	67.1	63.7	62.4
No rapid reaction required	32.9	36.3	37.6
Duration of Crisis Activity			
Less than 7 days	45.6	28.8	37.6
Between 8-30 days	20.3	20.8	18.8
Over 30 days	34.2	50.4	43.5

positive or negative outcomes from 1946-1965 but tended to yield negative outcomes after 1966.

The type of crisis (political, military, or both) was equally associated with U.S. objectives of restoring or maintaining the status quo across all crisis periods. Each type of crisis was equally likely to produce direct U.S. participation or confrontation tactics during the same time span. Political crises resulted in quick crisis resolution in 50-60 percent of the cases across all crisis periods and in extended attempts at crisis resolution in approximately 25-35 percent of the cases. Military crises were not systematically related to any crisis resolution speed before 1965. After 1965, military crises resulted in quick resolution about 50 percent of the time and in extended resolution efforts in another 30 percent of the cases. Politico-military crises ended in extended crisis resolution efforts approximately 60 percent of the time and in quick solutions in 25-30 percent of the crises identified. However, each type of political, military, or politico-military crisis was almost equally likely to produce positive or negative outcomes for the United States.

The decision time available to U.S. decision-makers in the crisis produced varying U.S. responses over the crisis periods. Rapid reaction time resulted in direct U.S. participation or confrontation for all three periods. Extended decision time was associated with lending of assistance to parties in dispute between 1946-1953. Between 1954-1965 extended decision time co-occurred with confrontation (in 34 percent of the cases), direct participation (20 percent), or assistance (20 percent). After 1966, extended decision time was associated with direct participation and confrontation. Thus, the relationship between extended decision

time and crisis response changed over time from indirect involvement through assistance to direct involvement and confrontation. This finding is consistent with increasing U. S. direct participation observed in Table 3.

SAMPLING FROM THE CRISIS INVENTORY

Rather than studying all crises since 1945 we have selected a sample of crises to facilitate more detailed analysis. The sample drawn is purposeful, not random. It is constructed to reduce the number of cases for analysis by maximizing time coverage (with adequate numbers for each of the three crisis periods), crisis types (with different types of international and domestic crises involving other major powers or less powerful countries), salient characteristics (to reflect the important relationships that emerged from analyzing all post-1945 crises), and data availability. Using these criteria, 41 crises (Table 6) were selected for the more detailed analysis of crisis management problems presented in Chapters 3-5.

SUMMARY

This chapter described the procedures used to generate the 289 crises involving extraordinary military management activity between 1946 and 1975. Characteristics of these crises and the environments in which they occurred were also discussed. Finally, a sample of 41 crises was drawn based on the substantive results obtained. This sample supplies the empirical focus for analyzing problems in crisis management presented in the remaining chapters of this Final Report.

TABLE 6

Crisis Incidents Selected For Detailed Analysis

1946	Civil strife and war in Greece.
1947	Chinese Nationalist-Chinese Communist war.
1948	Soviet Union disrupts Allies in Berlin.
1948	Nationwide U.S. rail strike.
1950	North Korea attacks South Korea.
1950	Aid to Formosa.
1952	Communist germ warfare charges in Korea.
1952	Koje Island riots.
1952	United States intercepts Soviet fighter.
1953	Riots in East Berlin.
1954	Quemoy-Matsu.
1955	Costa Rica fights Nicaraguan rebels.
1956	Arab-Israeli war.
1956	Hungarian Revolution.
1957	Little Rock desegregation.
1957	Soviets launch Sputnik I.
1958	Lebanese crisis.
1960	Dissension between the United States and Cuba.
1960	U-2 incident.
1961	U.S. troops sent to Vietnam.
1961	Berlin Wall erected.
1961	Nuclear test ban talks fail. Nuclear tests resumed.
1962	Cuban missile crisis.
1964	Canal Zone riots.
1964	Tonkin Gulf incidents.
1965	Civil war in the Dominican Republic.
1966	Four hydrogen bombs lost in air collision.
1966	France withdraws from the North Atlantic Treaty Organization
1967	U.S.S. Liberty attacked by Israelis.
1968	U.S.S. Pueblo captured by North Koreans.
1968	Martin Luther King assassinated. Urban riots in the United States.
1968	Soviet Union invades Czechoslovakia.
1969	Removal of toxic munitions from Okinawa.
1970	New York City mail strike.
1973	October war in the Middle East; U.S. forces increase crisis alert.
1973	Arab oil embargo.
1974	Military coup in Portugal.
1975	The United States cuts off military aid to Turkey.
1975	Cambodia seizes the Mayaguez.
1975	Civil war in Angola.

CHAPTER 3. IDENTIFYING AND CLUSTERING CRISIS MANAGEMENT PROBLEMS

Domestic and international crises are complex occurrences involving many potential problem areas. In turn, these problems are likely to be associated with each other in recurrent patterns as the occurrence of one problem or type of problem increases the likelihood of similar or related problems also occurring.

This chapter is designed to accomplish two goals. First, it presents and discusses an extensive list of potential problem areas for crisis management activities. These potential problems are then categorized into three analytical groupings to order the elaborate list. Second, the initial analytically derived categorization is statistically evaluated to develop clusters of crisis management problems. Accordingly, the first part of the chapter covers the list of potential crisis management problems, while the second section deals with the clusters of crisis management problems identified from the data on domestic and international crises involving the U.S. military.

IDENTIFYING CRISIS MANAGEMENT PROBLEMS

A crisis can involve a wide variety of problems ranging from those associated with intelligence failures to those related to formulating and executing the crisis response. Case histories of major crises -- such as World War I (Holsti, 1972), Korea (Paige, 1968), Berlin (Tanter, 1973), Cuba (Allison, 1971), or the Dominican Republic (Draper, 1968) -- recount numerous events that did or might have gone wrong during the

crisis. For the most part, however, existing crisis research has not systematically identified the general categories of crisis management problems and the specific problem manifestations within the general categories. Accordingly, developing a catalogue of potential crisis problems -- as a detailed guide to how "Murphy's Law" operates in crises -- was one of the tasks required in this research.

Two sources were used to develop the crisis management problems list: the existing literature on crises and crisis management and the judgment of experienced military personnel. Similar procedures were used to categorize the specific problems into classes of crisis management problems.

Sources of Crisis Management Problems

Most of the literature on crises or crisis management simply reports on problems encountered in specific crises. Little if any attention is focused on the types of problems encountered across crises. These descriptive accounts examine the crisis management problems in the context of a particular crisis and no attempt is made to identify and elaborate crisis management problems generally. Accordingly, studies of a number of crises were reviewed to determine the crisis management problems encountered. These problems were then restated in general terms for the crisis management problems list.

Systematic discussions of crisis management problems were carefully explored. However, the sole linking of crisis occurrences to crisis management problems is found in the social psychological literature on decision-making under stressful conditions. While focused on the

behavior of individuals under stress, this literature suggests a large number of potential crisis management problems. As noted especially well in the 1914 crisis studies (Zinnes, 1968; Holsti, et al., 1968; Zinnes, et al., 1972; Holsti, 1972),[1] but also in studies of other crises (Janis, 1972), decision-making under stress has major implications for crisis management procedures (Shapiro and Cummings, 1975). Thus, where appropriate, these types of human factors problems were placed on the crisis management problems list.

The second source for the crisis management problems list was experienced military judgment. A panel of retired military officers reviewed crisis cases against their knowledge of the problems that can be encountered in various types of politico-military operations. Existing narratives of major crises were used to suggest potential problem areas to members of the panel. The results of these analyses, together with the problems identified in the literature on crises, constituted the crisis management problems list that was coded in detail for a sample of domestic and international crises since 1945.

Types of Crisis Management Problems

The sample of 41 post-World War II crises presented in Chapter 2 was coded on over 70 different potential problems that could arise in managing domestic or international crises. The resulting list was divided into (1) crisis event and reaction problems, occurring at all command

[1] This literature is systematically reviewed, synthesized, and critiqued in Zinnes (1976) and Hoole and Zinnes (1976). For an earlier critique of the statistical procedures used in a number of the 1914 studies, see Hilton (1970).

levels instead of at a specific level of responsibility, (2) operational problems, encountered at any one of the echelons below the National Command Authority (NCA), or (3) national level problems, occurring at the highest command levels and at the interface of the various services and the civilian and military crisis managers.

Crisis Event and Response Problems. These problems refer to difficulties in recognizing and/or responding to the crisis that are not specific to the responsibilities of any single command and, thus, include functions simultaneously performed at several different levels. Given these responsibilities at several echelons, problems of coordination arise. Table 1 lists these general crisis management problems under three categories: (1) information, (2) extent and timing of military involvement in the crisis, and (3) crisis responses and reactions.

Information problems are associated with interpreting available information on the possibility of a crisis or the continuation of an existing one. The crises were examined to determine whether attention that might have been directed toward indications and warning in normal, routine functioning was directed toward other areas because one or more other crises (or ongoing warfare) occurred at the same time. Under the extent and timing for military involvement in the crisis, an attempt was made to determine whether the U.S. military was brought in to help solve the problem as the crisis continued or whether it was involved at the outset. Finally, the last four entries in Table 1 assess problems encountered in the responses taken to the crisis.

Table 1 displays results for the 41 crises included in the sample that suggest several important findings about the patterns of crisis management problems encountered since 1945.

TABLE 1

Preliminary Coding of Crisis Event and Crisis Reaction Management Problems
(percentage of occurrence)

	1946-1975 (n = 41)	1946-1953 (n = 11)	1954-1965 (n = 16)	1966-1975 (n = 14)
Information				
Crisis event is sudden but action/solution is drawn out	29.3	27.2	18.8	42.9
Crisis level extends over long period with intermittent peaks	26.8	45.5	25.0	14.3
Crisis develops while the United States is involved in coping with another crisis	26.8	18.2	25.0	35.7
Extent and Timing of Military Involvement				
U.S. military is not involved initially but is brought in to help solve problem	41.5	45.5	43.8	35.7
U.S. military is involved at outset	48.8	54.5	43.8	50.0
Crisis Responses and Reactions				
Situation not recognized initially; timely action not taken	14.6	0.0	31.3	7.1
Situation recognized; action inadequate	19.5	27.2	12.5	21.4
Crisis develops despite adequate actions	2.4	9.1	0.0	0.0
Overreaction to crisis	7.3	0.0	6.3	14.3

[a] The entry shown indicates the number of times the problem occurred as a percentage of all crises during the period that are included in the sample. For example, with 4 occurrences in 16 crises an entry of 25 percent is made. The subsample used for these computations is presented in parentheses below each crisis period designation.

- In over 40 percent of the crises, the situation that produced the crisis developed over time, but the crisis itself was sudden. In some cases, the U.S. military was involved at the outset of the crisis management effort. At other times, some crisis management problems occurred as the U.S. military was not involved at the outset of the crisis but was brought in over time to help solve the crisis.

- Problems increasingly arise as the crisis solution is drawn out over time. By 1966-1975, almost 43 percent of the crises encountered problems as the crisis solution dragged on over time.

- Information problems increased as more crises developed while the United States was coping with another crisis. By 1966-1975 over 35 percent of the crises developed as the United States was involved in one or more other crisis monitoring situations.

Operational Problems. A second category of crisis management problems consists of difficulties at the operational commands, from the commander-in-chief of a specific region to the tactical units involved in the crisis response. Since specific problems encountered are more difficult to determine as one moves down the chain of command, much of the coding deals with higher level operating units. Despite this potential limitation on the coding, four areas of operational problems are reported in Table 2.

The status of existing forces was one operational problem area examined to determine whether crisis management problems were encountered because needed forces, equipment, logistical support, or replacement units were not available. A second, related area was the physical environment in which the crisis response was executed. Did problems arise

TABLE 2

Preliminary Coding of Crisis Management Operational Problems
(percentage of occurrence)[a]

	1946-1975 (n = 41)	1946-1953 (n = 11)	1954-1965 (n = 16)	1966-1975 (n = 14)
Force Status				
Readiness of forces	29.3	18.2	18.8	50.0
Priority availability of forces	19.5	9.1	18.8	35.7
Appropriateness of units	4.9	0.0	12.5	21.4
Availability of equipment	24.4	18.2	18.8	35.7
Availability of sea/air lift	19.5	18.2	6.3	21.4
Replacement requirements for unit redeployment	4.9	0.0	6.3	7.1
Environmental Problems				
Geography, terrain, climate	43.9	36.4	25.0	71.4
Distance to crisis area	34.1	27.3	25.0	50.0
Special logistics/communications requirements	12.2	18.1	0.0	21.4
Need for additional/special intelligence	19.5	9.1	25.0	14.3
Inadequate communications	9.8	0.0	12.5	14.3
Operating Forces Problems				
Fail to acquire adequate information	29.3	27.2	18.8	42.9
Act on inadequate/incorrect information	14.6	27.2	6.3	14.3
Delay/fail in transmission of information	17.1	9.1	12.5	28.6
Action inadequate to prevent crisis	34.1	36.4	31.3	35.7
Action inadequate to solve crisis	17.1	9.1	18.8	14.3
Forces inadequate to solve crisis in time	26.8	27.2	18.8	35.7
Fail to execute action in time	9.8	9.1	6.3	14.3
Inadequate local logistic support to accomplish the objectives	22.0	27.2	25.0	14.3
Inadequate control of local forces	7.3	9.1	0.0	0.0
Security/sensitivity problems hamper crisis management	24.4	0.0	18.8	42.9
Human Factors Problems				
Choice of commander and staff	9.8	9.1	18.8	0.0
Sudden call-up/dispatch of troops	22.0	36.4	31.3	35.7
Joint operation involving language barriers	14.6	36.4	18.8	14.3
Action in friendly country/region	51.2	72.7	56.3	64.3
Action in hostile country/region	31.7	18.2	43.8	28.6
Delay in receipt of decision/orders through human error	17.1	9.1	0.0	42.9
Intermediate headquarters/chain of command	9.8	0.0	12.5	14.3
Lack of clear lines of responsibility to a single commander	7.3	0.0	12.5	7.1
Loss or transfer of key personnel	4.9	18.2	6.3	0.0
Public relations/press censorship	19.5	18.2	18.8	28.6
Fatigue	7.3	9.1	0.0	7.1
Inadequate communications for operating force use	12.2	27.2	0.0	14.3

[a] The entry shown indicates the number of times the problem occurred as a percentage of all crises during the period that are included in the sample. For example, with 4 occurrences in 16 crises an entry of 25 percent is made. The subsample used for these computations is presented in parentheses below each crisis period designation.

because of the physical distance from the United States or because of geographic, terrain, or climatic conditions? Did the physical environment require special logistics, intelligence, or communications to execute the U.S. crisis response?

Problems encountered by the operating forces were also coded to determine whether adequate information was acquired or unavailable to meet the crisis response needs of the operating units, whether adequate actions were taken to handle the crisis situation, or whether resupply problems were encountered. An attempt was also made to evaluate whether command and control problems occurred in directing local forces or whether the sensitivity of the subject matter of the crisis hampered adequate crisis management. Finally, personnel problems were coded under "human factors" to cover the numerous difficulties that occur when individuals or units must interact under the crisis management time constraint. Among the areas of concern are problems arising over the choice of the most suitable (by experience, temperament, and political sensitivity) commander for the operation, language problems in joint operations, communications difficulties resulting from human error, misunderstanding, or unfamiliarity with the appropriate procedures.

Table 2 suggests that crisis management problems are frequently encountered in force status and readiness, communications facilities and capabilities, human factors and manpower training, and physical locale and terrain. Force availability, readiness, and resupply problems have increased over time in U.S. crisis management activity. Readiness of forces was a crisis management problem in 50 percent of the cases after 1966, compared to less than 20 percent prior to 1966. Similarly, problems encountered in acquiring needed units and equipment have increased

since 1945. By the 1966-1975 period, these problems occurred in over 35 percent of the crises, more than double the rate for the previous periods.

Communications at the operating unit level constitute another area in which problems are more frequently encountered. The need to control available information because of security or sensitivity problems has increased over time. By 1966-1975, over 40 percent of the crises encountered this problem. Additionally, delay or loss of critical information in transmission or processing had become increasingly serious in almost 30 percent of the post-1966 crises included in the sample.

Human factors and manpower, including a delay in receiving or executing orders because of human error or organizational confusion, is a third major problem area. Problems in delayed receipt of decisions or orders through human failures occurred in over 42 percent of the cases sampled for 1966-1975. Similarly, problems with the sensitivity of the actions taken, including a concern for keeping the press informed yet removed from the action sequence, have consumed more time as journalists with portable equipment are increasingly involved in observing crisis responses.

Finally, the physical environment in which the U.S. military must respond has been increasingly more difficult since 1966. Physical terrain and climate have become sufficiently difficult that, between 1966 and 1975, the problems they produced were encountered in over 70 percent of the cases studied. Physical distance and inadequate communications were also more important as crises occurred in distant locations where the United States was not prepared to respond and where the communications facilities were inadequate or nonexistent.

National Level Crisis Management Problems. Crisis management problems encountered primarily at the National Command Authority (NCA) level were the third set examined. Some of these problems may also be encountered at operational levels, but the entries on Table 3 were coded only if there was some evidence that the problem occurred at the national command level. These problems were categorized according to whether defense systems or procedures or human factors were involved. Systems or procedures, in turn, were divided into information acquisition and interpretation, coordination problems across agencies or key decision-makers, and constraints on options considered for crisis response.

Information acquisition and interpretation problems in crisis management at the NCA level are examined in the first three entries on Table 3. Coordination problems may occur more frequently as the crisis becomes more serious. Hence, entries 4-8 on Table 3 represent areas over which crisis management problems might arise through delayed discussions on what response to make. Some of these delays occur because actions must be coordinated with several agencies before the crisis response can be implemented. At other times, direct involvement of the President in decision-making introduces broader foreign and domestic policy considerations. Items 9-20 identify some political and legal constraints that complicate military crisis management and make effective crisis resolution more difficult. Among these are considerations given to domestic or international political reactions to the actions planned and time required to coordinate planned responses with the appropriate domestic or international bodies. Last, some systems constraints imposed by communications, equipment, personnel, or security problems are coded.

TABLE 3

Preliminary Coding of National Level
Decision-Making Problems in Crisis Management
(percentage of occurrence)[a]

Systems/Procedures Problems	1946-1975 (n = 41)	1946-1953 (n = 11)	1954-1965 (n = 16)	1966-1975 (n = 14)
Inadequate intelligence input for decision-makers	31.7	18.2	37.5	35.7
Delay in securing adequate facts	39.0	27.2	37.5	50.0
Failure to recognize importance of information received	46.3	36.4	62.5	35.7
Delay in arriving at a decision on action to be taken	36.6	9.1	56.3	42.9
Decision/orders not transmitted from NCA in time	12.2	0.0	6.3	28.6
Extensive interagency coordination before action can be taken	58.5	54.1	81.3	64.3
Concurrence(s) legally required in proposed action/decision	12.2	9.1	6.3	21.4
Presidential approval legally required	22.0	27.2	18.8	14.3
Constraints on military action	73.2	45.5	81.3	85.7
Consideration given to U.S. domestic impact	46.3	45.5	43.8	50.0
Consideration given to international political impacts	78.0	45.5	93.4	85.7
Proposed crisis solution produces domestic policy conflict	39.0	18.2	62.5	28.6
Proposed crisis solution produces international policy conflict	51.2	27.2	68.8	50.0
Need for referral to international agencies (such as U.N., NATO, OAS)	34.1	27.2	50.0	28.6
Legality of proposed action is an issue	36.6	9.1	50.0	42.9
Inadequate communications system/facilities	14.6	9.1	12.5	21.4
Inability to reinforce local units in sufficient time	17.1	9.1	18.8	21.4
Inability to provide additional logistical support	4.9	9.1	6.3	7.1
Security/sensitivity hampers crisis management	24.4	9.1	12.5	42.9
Constraints perceived but are not real	12.2	0.0	25.0	7.1
Human Factors Problems				
Crisis actions affected by ideological issue(s)	48.8	54.5	68.8	21.4
Crisis actions affected by emotional issue(s)	70.7	63.6	75.0	78.6
Multinational involvement causes language problems	14.6	36.4	6.3	7.1
Press relations/public information significant	56.1	27.3	68.8	64.3
Delay in contacting proper individuals	4.9	0.0	0.0	14.3
Distracted attention due to multiple crisis situations	14.6	0.0	12.5	28.6
Fatigue from prolonged crisis	2.4	9.1	0.0	0.0
Frustration over prolonged crisis	9.8	9.1	6.3	14.3
Turnover of key personnel during prolonged crisis	7.3	9.1	6.3	7.1

[a] The entry shown indicated the number of times the problem occurred as a percentage of all crises during the period that are included in the sample. For example, with 4 occurrences in 16 crises an entry of 25 percent is made. The subsample used for these computations is presented in parentheses below each crisis period designation.

NCA level crisis responses may also involve human factors problems. Table 3 shows some of these, including psychological or psychophysical problems that are commonly associated with stressful crisis conditions. Other entries attempt to determine how frequently problems were encountered as a result of alternatives rejected on ideological or emotional grounds.[2]

Given the central role of the NCA in managing U.S. crisis responses, the extent to which the President is involved in crisis decision-making is hardly surprising. More surprising is that Presidential decision-making and bureaucratic coordination slowed the response so much that military crisis management problems arose in a substantial number of cases. Evidence from these 41 crisis indicates that

- The President was involved as a decision-maker in over 73 percent of the crises sampled, although this involvement was only legally required in 22 percent of the cases;
- Extensive interagency coordination was required by existing norms before action could be taken in over 58 percent of the cases, although such concurrence was legally required in only 12 percent of the crises.

Constraints on the actions proposed by the military produced crisis management delays in a number of the 41 crises examined. Among the major impacts of constraints are the following.

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[2] "Ideological" refers to disputes and problems over U.S. foreign policy issues and stances vis-a-vis major international opponents, particularly the Soviet Union. Emotional issues involve disputes within the United States over different orientations toward a particular crisis through some personal, cultural, or emotional attachment to another country. Thus, anti-Communism is an example of an ideological issue, while concern for Israel on the part of the American Jewish community is an example of an emotional issue.

- Constraints were placed on the military action proposed to manage the crisis (73.2 percent).

- Considerations were given to the domestic (46.3 percent) and international political (78.2 percent) impacts of the proposed actions.

- Domestic policy (39.0 percent) or international policy (51.2 percent) conflicts were produced by the proposed crisis solution.

- Legal questions were raised about the proposed crisis management response (36.6 percent).

Table 3 also indicates that the failure to recognize the importance of information on hand during or prior to the crisis produced crisis management problems in over 46 percent of the crises sampled between 1946 and 1975. In an additional 39 percent of the cases, a delay was experienced in acquiring some needed information for crisis management. Hence, needed information was not available and available information was underutilized, thus causing a serious problem in many post-World War II crises.

Ideological and emotional issues complicated the decision process and delayed a crisis response in 48.8 and 70.7 percent, respectively, of the cases studied. Increased concern with containing the press or working around available public information to formulate positions or execute responses occurred in 56.1 percent of the 41 crises studied.

Consistent upward trends were also found in the frequency with which certain crisis management problems occurred at the NCA level. Among the problem areas occurring most frequently were: delays in securing adequate facts; decisions or orders that were not transmitted rapidly

enough from the NCA; legal concurrences required from various agencies; constraints on military actions; inadequate communications systems and facilities; inability to reinforce local units in sufficient time; security and information sensitivity issues hampering the crisis management efforts; delays in contacting the appropriate officials; and distraction and inattention resulting from multiple crises that occur simultaneously. Together, these areas show the results of expanding the number of groups involved in crisis decision-making. While this has slowed the crisis management process, no one ever argued that representative government is an efficient decision-making form. However, these results do empirically demonstrate certain recurrent problems.

Human factors breakdowns are also important as information overload is reached through multiple crises, loss or misinterpretation of important information, malfunction of critical systems at particularly important times, and restrictions of available options caused by a concern for information sensitivity. Moreover, decisions reached are often delayed in transmission and implementation. Even with the NCA level delays introduced by the organization of the U.S. Government and the need to consider domestic and international political groups, an expanding number of crisis management problems involved absent information, technology, training, or analytical support.

EMPIRICALLY CLUSTERING THE CRISIS MANAGEMENT PROBLEMS

Potential crisis management problems that were distinguished and categorized are likely to be associated with one another in different problem clusters. In part, the classification of the problems into different categories in Tables 1-3 was an attempt to combine similar problems into common groupings. These initial categories were then treated as

hypothesized problem clusters to be evaluated through statistical clustering procedures.

Components of each of the subcategories and categories of crisis management problems shown in Table 1-3 were factor analyzed to determine empirically defined clusters of crisis management problems. The statistically derived factors were then evaluated for substantive interpretability and reasonableness by experienced military officers. Despite several different forms of factor analysis, the statistically derived clusters obtained from the factor analysis were difficult to interpret. Moreover, a larger number of substantive anomalies were present. Accordingly, the results of the factor analyses were rejected in favor of another approach to clustering the crisis management problems.

Correlations between the individual crisis management problems and informed military judgment were used to identify clusters of crisis management problems. Using these procedures, 15 groups of crisis management problems were identified. In each case, the major crisis problems in the cluster are statistically related to each other. In some cases, one or more additional problems were added to the statistically interrelated set because they should be included on substantive grounds. Finally, some clusters, composed of larger numbers of crisis management problems, were divided in several different ways so that the resulting clusters are not always statistically distinct from each other.[3]

Table 4 identifies the crisis management problem clusters developed from the crisis event and crisis reaction problems and lists their component indicators. Three clusters -- action problems, situational problems, and human factors problems -- are presented. Action problems

[3] The procedures used to isolate and test for the homogeneity of these clusters are discussed at length in Przeworski and Teune (1970: 113-131).

TABLE 4

Composition of the Clusters of Crisis Management Problems on Crisis Event and Crisis Reaction

Crisis Event and Crisis Reaction

1. Action Problems

   Situation not recognized initially, timely action not taken

   Situation recognized, actions inadequate

   Act on inadequate/incorrect information

   Delay/fail in transmission of information

   Action inadequate to prevent crisis

   Fail to execute action in time

2. Situational Problems

   Geography-terrain-climate

   Distance to crisis area

   Sudden call-up/dispatch of troops

   Joint operation-language

   Action in hostile country (area)

   Public relations/press censorship

3. Human Factors Problems

   Choice of commander and staff

   Sudden call-up/dispatch of troops

   Intermediate headquarters/chain of command

   Lack of clear lines of responsibility to a single commander

   Loss or transfer of key personnel

   Public relations/press censorship

refer to potential difficulties encountered as the crisis is identified, key information is needed, and initial actions are executed. Where these problems are present, effective action toward crisis management is slowed. Situational problems, such as characteristics of the physical area in which the crisis occurs and the potential problems that these factors impose, are also clustered. Crises having more situational problems are less readily dealt with under existing operating plans and crisis management procedures. Human factors problems center around the needs of commanders and personnel during crises. Where fewer key personnel are available, problems arise in the choice of commander and staff. Additionally, clear channels of command and control may be disrupted as multiple intermediate command levels along the reporting chain involve greater human factors problems.

Six clusters of problems *associated with operations during crises are* presented in Table 5. Support problems, the first cluster, consist of problems encountered in force readiness and the specific requirements needed in a crisis operation. Problems associated with the availability and choice of operational units are clustered in a second set as force considerations. Force status problems constitute the third set, consisting of combined force status, availability, and support requirements. Information inadequacies, the fourth operational problem area, are a cluster of potential difficulties associated with an inability to acquire or transmit needed information in a timely manner for the operational units. A somewhat more constrained form of this cluster is presented as the fifth problem set, the adequacy of information. Here, problems associated with acting on inadequate or incorrect information are dropped so that only problems associated with not having or not being able to transmit needed information are included. Finally, special communications and logistics requirements imposed by operations in distant

TABLE 5

Composition of the Clusters
Of Crisis Management Problems in Operations

1. Support

   Readiness of forces
   Availability of equipment
   Availability of lift (sea/air)
   Special logistics/communications requirements

2. Force Considerations

   Availability of forces (priority)
   Choice of units
   Consideration of replacement requirements in deploying units

3. Force Status Problems

   Readiness of forces
   Availability of forces (priority)
   Choice of units
   Availability of equipment
   Availability of lift (sea/air)

4. Information Inadequacies Problems

   Fail to acquire adequate information on time
   Act on inadequate/incorrect information
   Delay/fail in transmission of information
   Inadequate communications for operating units

5. Adequacy of Information Problems

   Fail to acquire adequate information on time
   Delay/fail in transmission of information
   Inadequate communications for operating units

6. Communications Problems

   Geography-terrain-climate
   Distance to crisis area
   Special logistics/communications requirements
   Inadequate to communications for operating units

locations or in difficult terrain are gathered in a communications problems cluster. Thus, this cluster links together the support problems associated with operations under difficult conditions.

Problem clusters associated with the national level (Table 6) center on facilitations or constraints to effective decision-making. The first cluster, decision problems, included inadequate intelligence and other key information, delays in proper evaluation of the information, and Presidential involvement in the decision process. In short, the cluster focuses on whether key information was missing, whether the information held was properly evaluated, and whether the President was involved in the decision process. The second and third clusters, intelligence problems and information evaluation problems, respectively, split the first cluster into the information availability and information evaluation problem areas. The fourth cluster examines problems encountered in information and decision coordination across the relevant domestic and international agencies, while the fifth cluster gathers the various kinds of constraints (real and perceived) that help to shape the crisis management process at the national level. Logistics conclude these problem areas in a cluster focused on the adequacy and availability of needed capabilities to fulfill national level decisions.

SUMMARY

An elaborate list of potential crisis management problems has been presented in this chapter. Clusters of crisis management problems were then derived using data on 41 post-1945 crises. These clusters span crisis management activities from initial information and monitoring needs to operational requirements and difficulties encountered in

TABLE 6

Composition of the Clusters of Crisis Management Problems
at the National Level

1. Decision Problems

Inadequate intelligence input for decision-makers
Delay in securing adequate facts
Failure to recognize import of information received
Delay in arriving at decision on action
President involved as decision-maker

2. Intelligence Problems

Inadequate intelligence input for decision-makers
Delay in securing adequate facts

3. Information Evaluation Problems

Failure to recognize import to information received
Delay in arriving at decision on action

4. Coordination Problems

Extensive interagency coordination before action can be taken
Concurrence(s) legally required in proposed action/decision
Presidential approval legally required
Need for referral to international organizations
Legality of proposed action is an issue

5. Constraint Problems

Constraints on military action
Consideration of U.S. domestic impact
Consideration of international relations
Proposed crisis solution produces domestic policy conflict
Proposed crisis solution produces international policy conflict
Security/sensitivity hampers crisis management
Press relations/public information a significant factor
Constraints are perceived but not real

6. Logistics Problems

Availability of lift (sea/air)
Sudden call-up/dispatch of troops
Action in hostile country (area)
Inadequate communications for operation units
Inadequate communications system/facilities
Inability to reinforce local units in sufficient time
Inability to provide additional logistical support
Multinational involvement causes language problems

command interfaces (including the NCA). In turn, these problem clusters provide the focus for the next two chapters of this Final Technical Report. Chapter 4 considers how the crisis management problems are related to each other. Based on this information, Chapter 5 examines how the crisis management problems are associated with the environment in which the crisis occurs and the characteristics of the crisis.

CHAPTER 4. PATTERNS OF CRISIS MANAGEMENT PROBLEMS

The clusters of crisis management problems identified in Chapter 3 aggregate individual crisis management problems into 15 groups. When examined separately, the frequency with which these crisis management problems occurred varied widely over the three post-World War II crisis periods. Since the crisis management clusters are aggregates of the individual crisis management problems, it is likely that they will also vary across the three crisis periods. Accordingly, the first part of this chapter examines whether the crisis management problem clusters did occur more or less frequently across the three crisis time periods (1946-1953, 1954-1965, and 1966-1975).

The second part of the chapter examines how the crisis management problems are associated with one another. The complex character of modern crisis management activity suggests that crises encountering one type of problem are also likely to encounter other types. To explore whether associations exist among the different types of crisis management problems, the second section of the chapter examines data on the crisis management clusters for each of the 41 crises coded in detail. Evidence of patterned relationships, supported by illustrations of problems encountered in post-World War II crises, is discussed.

TEMPORAL VARIATIONS IN THE CRISIS MANAGEMENT PROBLEM CLUSTERS

Frequency distributions for the types of crisis management problems are displayed in Tables 1-3. Distributions for the crisis event and reaction

problem clusters are presented by time period in Table 1. Three problem frequency categories -- none of the problems that comprise the cluster occur in any of the crises in the time period; one occurrence in any of the problems in the cluster for the crises in the time period; or two or more occurrences in any of the problems in the cluster for the crises in the time period -- are presented for each cluster. Each entry is a percentage of the crises in the period in which that frequency of crisis management problems occurred. Thus, the "45.5" on Table 1 under Action Problems Encountered 1946-1953 means that no such problems were present in 45.5 percent of the 11 crises that were examined in detail during that period.

As Table 1 shows, no significant changes are observed in the frequency with which the action problems have occurred over the three crisis periods. This is not true for the situational problems, however, as the number of crises with two or more situational crisis management problems increased substantially over the three crisis periods. At the same time, the number of crises without any situational problems declined from 27.3 percent in 1946-1953 to 14.3 percent between 1966-1975. Human factors problems remained almost equal in the first and third crisis periods but occurred considerably less frequently between 1954 and 1965. During that time, the number of crises without any human factors problems increased markedly, while the number with one problem declined to 25 percent. Other than this variation, however, the occurrence of human factors problems is temporally stable.

The same temporal stability is not observed when operations problems are examined (Table 2). Important shifts in the frequency distributions of support problems encountered are observed over the three crisis periods as the number of crises without any problems declined

TABLE 1

Frequency Distributions for the Crisis Event and Reaction Problem Clusters by Time Period[a]
(percentages)

	1946-1953 (n = 11)	1954-1965 (n = 16)	1966-1975 (n = 14)	1946-1975 (n = 41)
Action Problems Encountered				
0	45.5	43.8	42.9	43.9
1	18.2	31.3	21.4	24.4
2 or more	36.4	25.0	35.7	31.7
Situational Problems Encountered				
0	27.3	31.3	14.3	24.4
1	27.3	18.7	21.4	22.0
2 or more	45.5	50.0	64.3	53.7
Human Factors Problems Encountered				
0	36.4	56.2	35.7	43.9
1	45.5	25.0	42.9	36.6
2 or more	18.2	18.7	21.4	19.5

[a] Table entries are column percentages based on the sample sizes shown in parentheses. Columns for each problem cluster may not add to 100 because of rounding.

TABLE 2

Frequency Distributions for the Operational Problem Clusters by Time Period[a]
(percentages)

	1946-1953 (n = 11)	1954-1965 (n = 16)	1966-1975 (n = 14)	1946-1975 (n = 41)
Support Problems Encountered				
0	72.7	75.0	21.4	56.1
1	9.1	12.5	35.7	19.5
2 or more	18.2	12.5	42.9	24.4
Force Considerations Encountered				
0	90.9	68.7	57.1	70.7
1	9.1	25.0	14.3	17.1
2 or more	0.0	6.3	28.6	12.2
Force Status Problems Encountered				
0	81.8	68.7	21.4	56.1
1	0.0	12.5	28.6	14.6
2 or more	18.2	18.8	50.0	29.3
Information Inadequacy Problems Encountered				
0	54.5	68.7	42.9	56.1
1	18.2	25.0	28.6	24.4
2 or more	27.3	6.3	28.6	19.5
Information Problems Encountered				
0	63.6	68.7	42.9	58.5
1	9.1	25.0	28.6	22.0
2 or more	27.3	6.3	28.6	19.5
Communications Problems Encountered				
0	54.5	62.5	21.4	46.3
1	9.1	18.7	21.4	17.1
2 or more	36.4	18.8	57.1	36.6

[a] Table entries are column percentages based on the sample sizes shown in parentheses. Columns for each problem cluster may not add to 100 because of rounding.

substantially from 1966 to 1975 at the same time that those with two or more problems increased by more than twofold. Similar increases are observed in the force status problems. The number of crises without any force status problems dropped from 81.1 to 21.4 percent between the first and third periods, while those with two or more problems almost tripled over the same time span. An even larger increase is observed in the number of crises with one force status problem (from no crises in the first period to 28.6 percent by the third period).

Problems encountered with force considerations have also increased over time as the number of crises without any problems declined while those with two or more crises rose sharply. A similar pattern is present for the communications problems as crises with one communications problem drop from 54.5 to 21.4 percent from the first to the third period at a time when those with one or more problems approximately doubled.

Not surprisingly (given the almost identical structure of the two clusters), the information inadequacy and information problems clusters show almost the same occurrence percentages over the three time periods. In each case, the number of crises without any problems grew between the first and second time periods (slightly in the case of the information problems cluster), but declined to 42.9 percent of the crises after 1966. The number of crises with one information or information inadequacy problem increased appreciably over the same time. Those with two or more crises declined sharply between the first and second periods, but returned to 28.6 percent of the crises from 1966 to 1975.

Table 3 displays the frequency distributions for the national-level decision-making crisis management clusters over the three crisis

TABLE 3

Frequency Distributions for the National Decision-Making Level Problem Clusters by Time Period[a]
(percentages)

	1946-1953 (n = 11)	1954-1965 (n = 16)	1966-1975 (n = 14)	1946-1975 (n = 41)
National-Level Decision Problems Encountered				
0	27.3	6.3	0.0	9.8
1	36.4	12.5	21.4	22.0
2 or more	36.4	81.2	78.6	68.3
Intelligence Problems Encountered				
0	72.7	62.5	50.0	61.0
1	9.1	0.0	28.6	12.2
2 or more	18.2	37.5	21.4	26.8
Evaluation Problems Encountered				
0	63.6	18.8	35.7	36.6
1	27.3	37.5	35.7	34.1
2 or more	9.1	43.8	28.6	29.3
Coordination Problems Encountered				
0	18.2	0.0	21.4	12.2
1	54.5	18.8	28.6	31.7
2 or more	27.3	81.2	50.0	56.1
Constraint Problems Encountered				
0	9.1	0.0	0.0	2.4
1	27.3	6.3	0.0	9.8
2 or more	63.6	93.7	100.0	87.8
Logistics Problems Encountered				
0	36.4	25.0	7.1	22.0
1	9.1	37.5	42.9	31.7
2 or more	54.5	37.5	50.0	46.3

[a] Table entries are column percentages based on the sample sizes shown in parentheses. Columns for each problem cluster may not add to 100 because of rounding.

periods between 1946 and 1975. The national-level decision, intelligence, and information evaluation clusters are closely related, as the last two merely disaggregate the first. National-level problems occurred more frequently over the three crisis periods as the number of crises with one national-level decision problem declined from 36.4 to 21.4 percent over the three time periods and dropped as low as 12.5 percent of the crises between 1954 and 1965. Crises with more than two national-level decision problems rose more than twofold over the three time periods.

Different patterns are observed in the two types of crisis management problems drawn from the national-level decision-making problem cluster. The number of crises without any intelligence problems declined linearly over time. On the other hand, the number of crises with one problem increased threefold from the first to the third time periods, but did not occur in the second time period. Crises with two or more intelligence problems remained essentially constant from the first to the third periods, but increased sharply in the second period. At the same time, the intelligence evaluation problems (also drawn from the national-level decision problems) changed distinctly over the three crisis periods. Crises without any evaluation problems declined from the first to the second period, increased from the second to the third period, but generally declined over the entire time span. Crises with one problem increased by 8 percent over the three periods, but those with two or more crises increased by more than threefold from the first to the third periods and almost fivefold from the first to the second time period.

This general tendency for varying types of national-level decision problems to occur in more recent crises is also apparent in the coordination

problem cluster where 50 percent of the crises in the third time period had two or more such problems (as did over 80 percent in the second period). The number of crises with one problem declined equally sharply over the same time span. At the same time, the number of constraints faced by crisis managers increased dramatically. By the third crisis period, all 14 crises involved two or more constraint problems.

Logistics problems also occurred more frequently in recent crises. The number of crises without any logistics problems declined from 36.4 to 7.1 percent over the three time periods. At the same time, crises with one logistics problem increased nearly fivefold, rising from 9.1 to 42.9 percent of the crises, respectively, in the first and third time periods. Crises with two or more logistics problems declined between the first and second periods, but returned to 50 percent of the crises between 1966 and 1975.

The three tables suggest substantial variations in the frequency distributions in the different crisis management problem clusters over the three time periods. At the same time, several clusters remained essentially stable over the 30-year period or varied in one of the time periods (most frequently between 1954 and 1965) while remaining generally stable over the other two. These variations over time in the three time periods or in the second period alone might be the result of distinct characteristics of the cases sampled for more detailed analysis. Alternatively, they might result from change in the crisis management process over time. As one means of determining what patterns of problems have arisen in the 41 post-World War II crises examined in detail, the remainder of this chapter explores how the various crisis management problems are related.

PATTERNS OF ASSOCIATION AMONG THE CRISIS MANAGEMENT PROBLEM CLUSTERS

Given the complexities of crisis management and the wide range of problems that can potentially occur, crises that encounter one type of problem are also likely to experience difficulties covered in one or more others of the 15 problem clusters identified in Chapter 3. Thus, when a crisis involves particularly severe problems in one area, problems in other areas also seem likely. However, while the problem clusters may be associated (as problems in one cluster also suggest or perhaps help to produce problems in one or more other clusters), how the problem clusters are related is not clear.

This section examines how various types of crisis management problems are associated with each other. As Figure 1 suggests, the three broad types of crisis management problems could be interrelated in various ways. First, crisis event and response problems could help to produce operations problems by involving difficult situational and human factors problems that reduce operational efficiency. Similarly, operational problems may intensify human factors problems. Second, national-level decision-making problems may be associated with crisis event and reaction problems as intelligence shortfalls and logistics problems combine to worsen action problems and intensify human factors in crisis management. Alternatively, situational and human factors problems may contribute to intelligence and information evaluation problems and make coordination and logistics support more difficult. Third, problems at the national decision-making level may co-occur with operations problems since intelligence, information evaluation, and information inadequacies are likely to be interrelated. Support, communications, and logistics problems may be similarly interdependent as may force considerations and logistics problems.

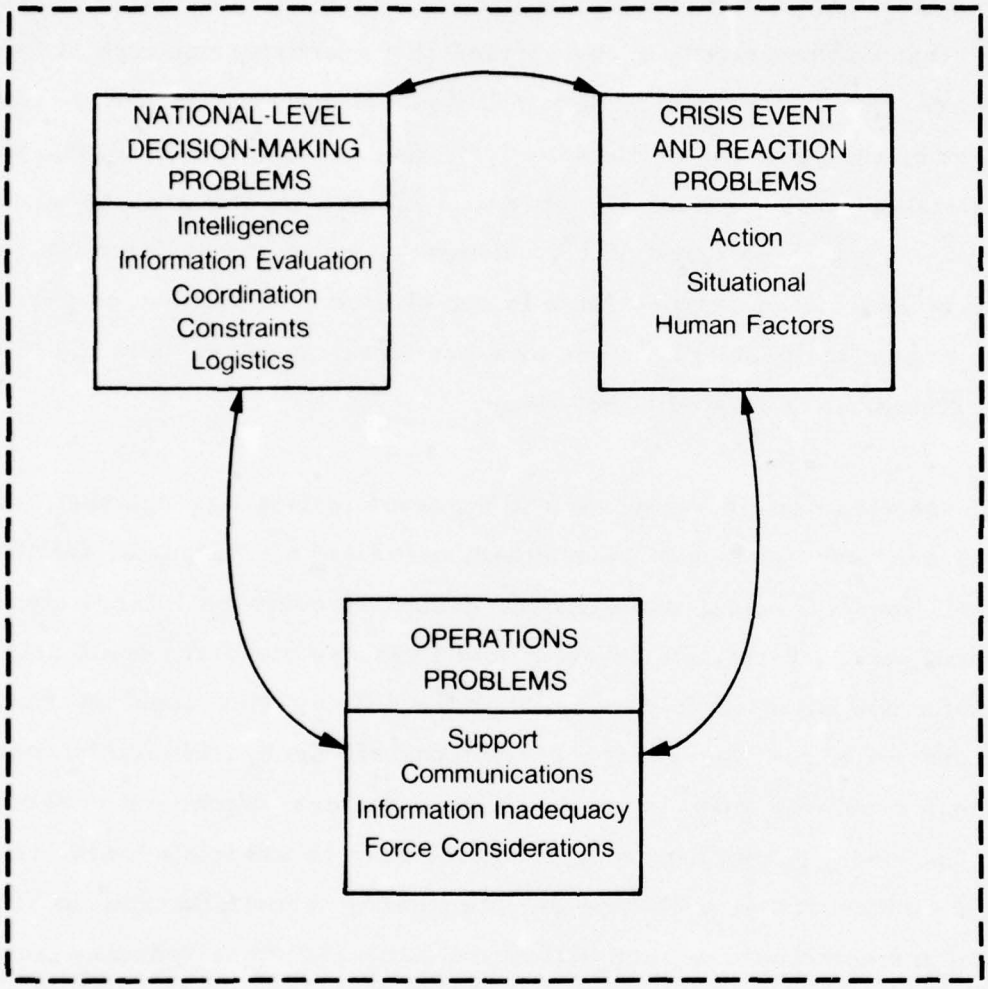

Figure 1. Relationships Among the Crisis Management Problem Clusters

Three factors influenced the choice of an assessment statistic for evaluating the contents of Figure 1. Since the number of potential linkages is large, adequate safeguards must be maintained to insure that the results produced do not distort the likely patterns of association. Second, the absence of a temporal dimension in the data for each of the crises further complicates attempts to disentangle the interrelated linkages shown in Figure 1. Third, the limited number of cases (41) for which detailed data are available requires a relatively conservative statistic that will capture the broad patterns of association among the various types of crisis management problems. Based on these considerations, canonical analysis -- a correlational procedure that simultaneously examines the extent to which multiple independent and multiple dependent variables covary -- was used to explore the relationships outlined in Figure 1.[1]

Associations Between the Crisis Event and Reactions and the Operations Problems Clusters

Canonical analysis of the crisis event and reaction and the operations problems clusters produced two patterns of association.[2] The first pattern, shown in Equation 1, is strongly dominated by the association between situational problems and communications problems.

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[1] Canonical analysis is discussed in Van de Geer (1971) and Cooley and Lohnes (1971). Major applications of the technique to research on international behavior include work by Cobb and Elder (1971) on international integration, Phillips and Crain (1974) on dynamic international interactions, and Hazlewood (1973) on domestic and international conflict.

[2] Several of the operations problems clusters vary only slightly from each other. Hence, in an attempt to avoid the distorting effects of multicollinearity among the members of one of the variable sets, not all are included in the canonical analyses.

(1) 0.17 Action Problems + 1.01 Situational Problems - 0.29 Human Factors Problems →
0.03 Support Problems + 0.84 Communications Problems + 0.13 Information Inadequacy Problems + 0.07 Force Considerations

$R_{c_{max}} = 0.915$ $R_c^2 = 0.837$ $\chi^2 = 88.41$ $df = 12$ $p < .001$

As the results suggest, situational problems (such as difficulties with terrain, the distance of the crisis location from the United States, whether or not the crisis occurred in hostile territory, whether or not language problems were present, and the like) are strongly associated with operations problems in crisis management. Communications problems (such as communications inadequacies and unique communications requirements) are also strongly tied to crisis event and reaction problems.[3] Interestingly, force considerations, information inadequacies, action, and human factors problems are not integral to the first pattern (in which over 83 percent of the variance between the two sets is explained).

Several of the 41 cases coded for crisis management problems illustrate the pattern present in the first canonical correlation, including the Chinese civil war, the decision to send U.S. troops to South Vietnam in 1961, and the loss of four hydrogen bombs over Spain in 1966 after a

[3] Canonical analysis gives the relationship of each variable in the predictor (independent) set to the variables of the criterion (dependent) set, the overall relationship (common variance) between the two sets of variables, and a measure of the statistical significance of the resulting canonical correlation (R_c). A chi square distribution-based significance test for each canonical correlation, devised by Bartlett, is detailed in Cooley and Lohnes (1971: 175).

mid-air collision between two U.S. Air Force planes. In this latter crisis, the loss of the thermonuclear devices occurred in difficult terrain (on- and off-shore in southern Spain and the Mediterranean) and involved considerable public relations problems for military crisis managers. Recovery was a joint operation with language problems that further complicated a delicate situation. Moreover, the land-sea search, which the U.S. Government had hoped to carry out with limited public visibility, called for several unusual logistics and communications capabilities to avoid arousing undue public interest. Together, these factors produced the situational problems-communications problems pattern identified in the canonical analysis.

The second canonical correlation shows a pattern dominated by extensive human factors and actions problems and information inadequacies and force considerations (Equation 2). Action and human factors problems are positively associated with operations problems. Information inadequacies and force considerations are also positively associated with crisis event and reaction problems. Difficult crisis management missions involve both human factors and action problems. In turn, these are associated with the absence of some key information problems and problems with the readiness and availability of military forces to respond to the crisis.

(2) 0.76 Action Problems - 0.79 Situational Problems + 0.92 Human Factors Problems →
0.49 Support Problems - 1.35 Communications Problems + 0.75 Information Inadequacies + 0.72 Force Considerations

$R_{c_2} = 0.582$ $R_c^2 = 0.339$ $\chi^2 = 2.23$ $df = 6$ $p < .002$

One such instance was the movement of toxic munitions from Okinawa to storage on Johnston Island in the Pacific in 1969-1971 (under Operation RED HAT), preliminary to the reversion of Okinawa to Japan. There, the extensive care taken in preparing extremely hazardous toxic munitions for shipment was complicated by adverse environmental factors and difficult public relations and political problems on Okinawa. These problems were further complicated by public sentiment in the United States and Japan over possession and movement of such munitions and by the need to maintain tight security and safety during the operation. These circumstances combined to produce demands for specific troop assignments, training, and disposition. The dangerous task of transporting these chemical munitions helped to create human factors problems. Together, these factors illustrate the pattern shown in Equation 2.

Associations Between the Crisis Event and Reactions and the National-Level Decision-Making Problem Clusters

Canonical analysis reveals two statistically significant patterns between the crisis event and reaction problems and the national-level decision-making problem clusters. The first pattern (Equation 3) is dominated by the strong positive association between situational problems and logistics problems.

(3) 0.15 Action Problems + 0.91 Situational Problems - 0.004 Human Factors Problems →
0.14 Intelligence Problems - 0.25 Information Evaluation Problems - 0.04 Coordination Problems + 0.37 Constraint Problems + 0.84 Logistics Problems

$R_{c_{max}} = 0.809$ $R_c^2 = 0.655$ $\chi^2 = 57.22$ $df = 15$ $p < .001$

Among the 41 crises for which detailed codings of the crisis management problems are available, perhaps the single best illustration of this pattern is found in the U.S. decision to commit troops to Korea to counter the invasion from the North. In that crisis, U.S. forces were rapidly committed in a difficult and distant geographical terrain, additional forces were called up suddenly, and the complexities of the joint operations with a poorly trained and equipped South Korean Army had to be worked out. Accomplishing the goals of the crisis management response -- stemming the North Korean invasion and restoring the status quo ante -- had to be undertaken in particularly difficult circumstances where logistical support was either inadequate or absent.

A second pattern of association between the two sets is also isolated, as seen in Equation 4, where the action and evaluation problem clusters are particularly strongly related. Action problems (involving situation recognition, adequacy of actions taken, failure to act, or having to act on inaccurate information) are strongly related to national-level decision problems. At the same time, information evaluation problems (involving recognition of the importance of key information and recommendations for action based on that information) are strongly associated with the crisis event and reaction problem clusters.

(4) 1.16 Action Problems - 0.93 Situational Problems + 0.33 Human Factors Problems →
- 0.30 Intelligence Problems + 0.94 Intelligence Evaluation - 0.37 Coordination Problems + 0.12 Constraint Problems + 0.02 Logistics Problems

$R_{c_2} = 0.569$ $R_c^2 = 0.324$ $\chi^2 = 18.38$ $df = 8$ $p < .02$

Activities after the Soviet Union downed a U-2 reconnaissance plane piloted by Francis Gary Powers in May 1960 typify this pattern of crisis management problems. The seriousness of the missing "weather" plane was not initially recognized (perhaps because the existence of such missions was so tightly controlled by security considerations), and a preconceived cover story was issued that a weather data-gathering plane was missing and had perhaps strayed over Soviet territory. Key information on the plane's mission that might have changed initial U.S. responses was not distributed, and the available information was incorrectly evaluated. By the time the U.S. Government formulated a nonroutine response, Chairman Khrushchev had revealed in Moscow that a U.S. aircraft had been shot down some 1,500 miles inside Soviet territory and that the Soviets had captured the pilot. In short, key indications of problems were not recognized, and information that became available over time was incorrectly evaluated.

Associations Between Operations Problems and National-Level Decision-Making Problems

Equation 5 presents the strongest set of associations between the operational problems and the national-level decision-making problem clusters. The initial pattern, accounting for over 71 percent of the variance between the two types of crisis management problems, is dominated by the relationship between information inadequacies and logistics problems. Information inadequacies are strongly associated with national-level decision-making problems. Similarly, logistics problems that must be considered in the national-level decision-making process are strongly associated with problems in crisis management operations.

(5) 0.27 Support Problems - 0.04 Force Considerations + 0.86 Information Inadequacies + 0.05 Communications Problems →
0.22 Intelligence Problems - 0.15 Information Evaluation Problems - 0.19 Coordination Problems + 0.16 Constraint Problems + 0.91 Logistics Problems

$R_{c_{max}} = 0.845$ $R_c^2 = 0.714$ $\chi^2 = 68.43$ $df = 20$ $p < .001$

A second major pattern (accounting for almost 38 percent of the residual variance between the two sets of crisis management problem clusters) is marked by a strong positive association between support problems and information evaluation problems. As Equation 6 shows, increased support problems are associated with increased national-level decision-making problems. Among the national-level problems, shortcomings in information evaluation are positively associated with increased problems in crisis management operations. In what is at least counterintuitive (and perhaps a statistical artifact), communications problems in crisis management operations are inversely associated with national-level decision-making problems.

(6) 1.20 Support Problems + 0.06 Force Considerations + 0.20 Information Inadequacies - 1.05 Communications Problems →
- 0.39 Intelligence Problems + 1.04 Information Evaluation Problems - 0.19 Coordination Problems - 0.34 Constraint Problems + 0.20 Logistics Problems

$R_{c_2} = 0.616$ $R_c^2 = 0.379$ $\chi^2 = 23.40$ $df = 12$ $p < .02$

The crisis over seizure of the U.S.S. Pueblo off the North Korean coast in 1968 illustrated the first pattern of this type of crisis management problem, while the Berlin Blockade of 1948 illustrated the second. In the Pueblo crisis, severe logistics and communications patterns hampered response formulation and execution. These problems intensified as vital information was missing on the ship's location, the crew's disposition, and the status of intelligence materials and equipment on board. Logistics problems worsened as President Johnson called up selected reserve units. During the Berlin Blockade of 1948, shortcomings in evaluating available information on Soviet intentions and delays in decisions intensified support problems (including force readiness, availability of equipment and lift capability, and needed logistics and communications support). Thus, substantial reaction opportunity was lost by the time the blockade began.

SUMMARY

This chapter examined the temporal stability of the crisis management problem clusters over the three post-World War II crisis periods and analyzed relationships among the types of crisis management problems. As Tables 1-3 suggest, the crisis event and reaction clusters are generally stable over the three time periods, while the operations and national-level decision-making clusters change significantly over the 30-year period. Canonical analysis of the crisis management problem clusters indicated substantial co-occurrence among different problem types. Figure 2 summarizes the strength of these associations, displaying the percentage of variance shared between the sets of crisis management clusters developed using the trace coefficient (Hooper, 1959). The strongest association, operations problems with crisis event and reaction problems, has over 39 percent of the variance shared between the

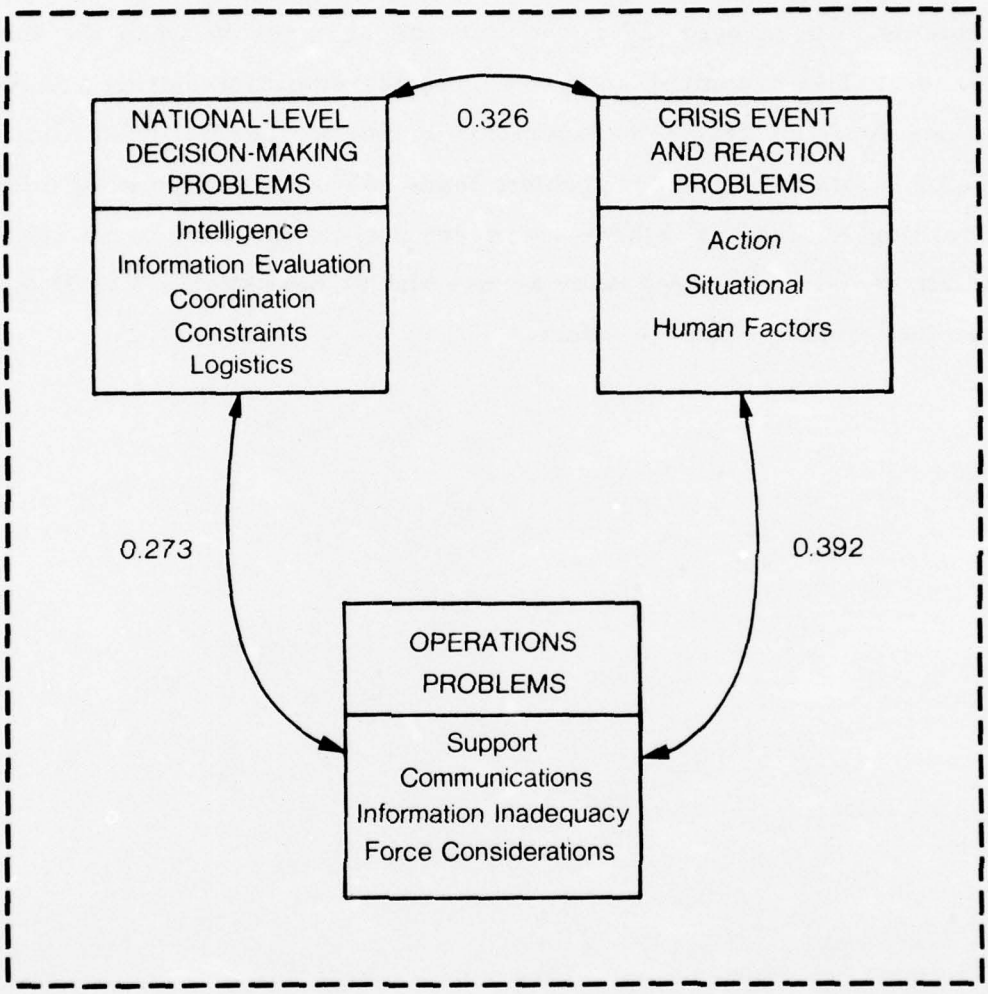

Figure 2. Magnitudes of Association Among the Crisis Management Problem Clusters (Using Percentage of Shared Variance Derived From the Trace Coefficient)

two sets across the canonical patterns. Crisis event and reaction problems also share substantial variance (32.6 percent) with the national-level decision-making problems. The weakest association among the problem sets is between national-level decision-making and operations problems, where over 27 percent of the variance between the two is shared. The canonical analyses indicate important patterns between various types of crisis management problems. The occurrence of one type of crisis management problem leads to (or co-occurs with) others. Accordingly, Chapter 5 uses these results as one part of an effort to explain variations in frequency across the 41 post-World War II crises examined in this research effort.

CHAPTER 5. PREDICTING VARIATIONS IN CRISIS MANAGEMENT PROBLEMS

This chapter examines whether variations in the crisis management problems encountered in 41 post-World War II crises can be predicted from the descriptive characteristics of the crisis, the environmental monitoring at the time of the crisis, and the plans for and responses to the crisis made by the U.S. Government. As Chapter 4 demonstrated, once a crisis is underway, the various types of crisis management problems are closely related. This chapter examines whether variations in the characteristics of the crisis and the environment in which the crisis occurs can predict variations in the crisis management problem clusters identified in Chapter 3.

The chapter contains five sections. The first reviews the design that guided the statistical analysis. The second section covers the results for the three crisis event and reaction problem clusters, while the third section describes the findings for operations problems. Section four covers the regression results for the national-level decision-making problems. The last section summarizes the chapter's major findings.

PREDICTORS OF CRISIS MANAGEMENT PROBLEMS

More than 20 possible predictors of variations in crisis management activities were coded for the 41 post-1945 crises reviewed in this phase of the research. These predictors were of three types.

1. Characteristics of the environment in which the crisis occurred, focusing particularly on the crisis monitoring ongoing at the time of the crisis buildup and/or the crisis incident.

2. Characteristics of the crisis activity, including the amount of decision time available, the nature of the crisis (domestic or international; political, military, or both), the extent of threat to the United States posed by the crisis, and the speed with which the threat arose.

3. Characteristics of the crisis responses made, the nature of U.S. participation, and U.S. objectives in the crisis.

A number of other characteristics of the participants in the crisis, the time period in which it occurred, its strategic implications, and the crisis outcome were also coded but not used in these analyses. Preliminary treatment of these variables, based on analysis with cross tabulations (CACI, 1976), suggested that insufficient variation existed across the 41 crises that form the basis for the analysis presented in this chapter.

Figure 1 displays the hypothesized relationships among the three predictor sets and the crisis management problem clusters. Each predictor set is expected to be directly associated with the crisis management problem clusters (as shown in the straight lines) and indirectly associated through the other predictor sets (as shown in the curved, double arrowheaded lines). Once a crisis has begun, the dynamics among the crisis management problems discussed in Chapter 4 operate. Thus, while the crisis management problems are presented as a single block of variables, they actually perform as described in Chapter 4, Figure 2.

Given the dominant concern of explaining the greatest variation in the crisis management problem clusters with the fewest predictors, regression analysis was used to probe the relationships in Figure 1. Since

the research focused on accounting for variations in the crisis management problem clusters rather than examining relationships among the predictor variables, other procedures to apportion variance among the different predictor sets (such as multiple partial correlations) were not employed. In short, these analyses focus on the relationship between one or more predictor variables -- drawn from the predictor sets shown in Figure 1 -- and each of the crisis management problem clusters, controlling for the impact of other predictors in the equation.

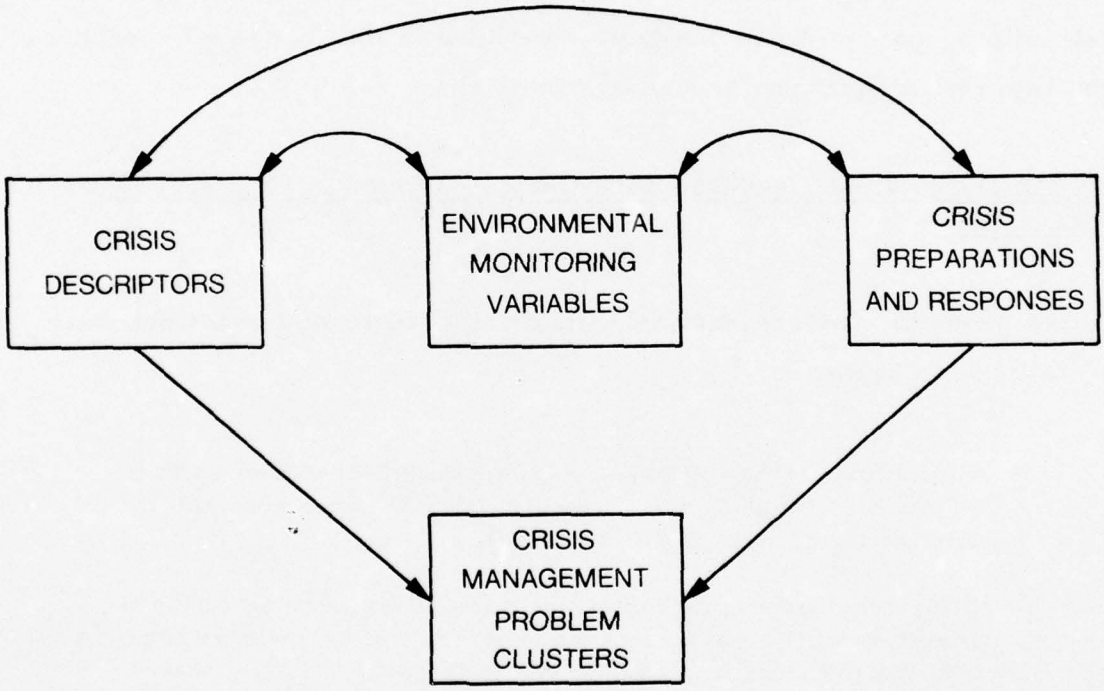

Figure 1. Hypothesized Relationships Among the Predictors to Crisis Problem Clusters

Each predictor was originally coded as a dichotomous or polychotomous variable for use in cross tabulations with each of the crisis management problem clusters. Thus, the variable "Nature of the Crisis" contained three categories: primarily military, primarily political, and politico-military. When the cross tabulations showed that one of the categories was significantly related to a particular problem cluster, it was converted into dichotomous variables for the regression analysis.[1] For example, if the cross tabulations showed that politico-military crises were related to crisis management problems, each crisis would then be recoded as "1" (when the crisis was politico-military) or "0" (when it was not). All predictors that were statistically significant in the cross tabulations, once coded in this dummy variable format, were entered into the regression equations presented in this chapter.

PREDICTING VARIATIONS IN THE CRISIS EVENT AND REACTION PROBLEMS

Three problem clusters dealing with crisis events and reactions were identified in Chapter 3.

1. Action problems (potential difficulties encountered as the crisis was identified, key information became available, and initial actions were executed).

2. Situational problems (potential difficulties such as characteristics of the physical area in which the crisis occurred and the problem imposed by these factors).

3. Human factors problems (potential difficulties centering on the needs of commanders and personnel during a crisis).

[1] Creating dichotomous (or "dummy") variables in this manner is discussed in Rao and Miller (1971: 81-111).

Predicting Variations in Action Problems

One or more action problems were detected in 23 (56.1 percent) of the 41 crises studied. Cross tabulations of the predictor variables with the action problems cluster indicated that the most prevalent characteristics were the following:

- The precrisis buildup occurred over an extended period.
- The crisis was international, not domestic.
- The crisis event occurred without warning.
- The crisis was politico-military.
- It posed a major threat to U.S. interests.
- The threat to U.S. interests arose in less than 7 days, and limited time was available for decision-making.
- Crisis resolution took more than 30 days.
- U.S. personnel participated directly in the crisis response.
- The major U.S. objective was to restore the status quo ante.

These characteristics were entered into a multiple regression equation to examine how much variation they could jointly explain in the action problems, once the impact of the other predictors was controlled. Equation 1 presents these results.

$$\text{(1)}\quad \text{ACTION} = \underset{}{0.61} + \underset{(2.71)}{0.92}\ \text{AWARES} + \underset{(2.12)}{0.72}\ \text{THREATH} + \underset{(2.48)}{0.82}\ \text{USPARTP} - \underset{(-2.00)}{0.84}\ \text{USOBJM} + \underset{(1.58)}{0.49}\ \text{TIMING}$$

$$\bar{R}^2 = 0.40 \qquad F(5, 35) = 5.87 \qquad p < .001$$

Entering all nine predictors into the equation for the action problems produced statistically insignificant and confusing results. The most efficient predictors, shown in Equation 1, account for 40 percent of the variation in the action problems, once the number of predictors used to generate the explained variance is controlled.[2] These results indicate that crises in which the event occurred without warning (AWARES) had a high threat to U.S. interests (THREATH) that arose rapidly (TIMING), and direct U.S. participation (USPARTP) tended to have more action problems. On the other hand, crises in which the U.S. objective was to maintain the status quo ante (USOBJM) encountered fewer crisis action problems.

Analysis of the relative importance of the terms in the equation using the standardized regression coefficient (beta weight) shows that surprise over the crisis ($\beta = 0.37$) and direct U.S. participation ($\beta = 0.34$) were the most important predictors of variation in action problems. The extent of threat ($\beta = 0.28$) and U.S. objectives ($\beta = -0.24$) were somewhat less important predictors of the occurrence of these action problems. The speed with which the threat arose was the least powerful of these five predictors ($\beta = 0.20$). Taken together, the five predictors captured a pattern that could have occurred only 1 time in 1,000 chances.

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[2] All equations report the unstandardized regression coefficient and the t-statistic for each term. For the number of cases used in these analyses, t-statistics greater than 1.30 are significant at $p < .10$. Those greater than 1.68 are significant at $p < .05$. The F-statistic and the degrees of freedom in the F-distribution are also reported for each equation as a test of the significance of the entire equation. This significance is indicated in the "p-value" shown for each equation. The adjusted $\bar{R}^2$ (designated by a bar over the R) summarizes how much variance is accounted for, given the number of predictors used in the equation. Details on these tests are presented in Rao and Miller (1971) and Johnston (1972).

Predicting Variation in Situational Problems

Situational problems were encountered in 31 (75.6 percent) of the 41 post-World War II crises examined. Analysis of the cross tabulations showed that the most prevalent characteristics were:

- Increased precrisis monitoring focused on the area in which the crisis occurred.
- The crisis event was not anticipated by any monitoring system;
- The crisis was international, not domestic;
- Crisis activity stretched more than 30 days;
- Limited time was available for decision-making;
- Crisis resolution took more than 30 days;
- U.S. personnel participated directly in the crisis; and
- The major U.S. objective was to restore the status quo ante.

Equation 2 presents the results obtained when these variables were jointly examined as predictors of situational crisis management problems. The most efficient set of predictors was the nature of U.S. participation in the crisis (USPARTP), the extent of the threat to U.S. interests posed by the crisis (THREATH), and the time available for decision-making during the crisis (DECISNS). Once adjusted for the number of predictors used in the equation, they accounted for 24 percent of the variation in situational crisis management problems in the 41 post-1945 crises.

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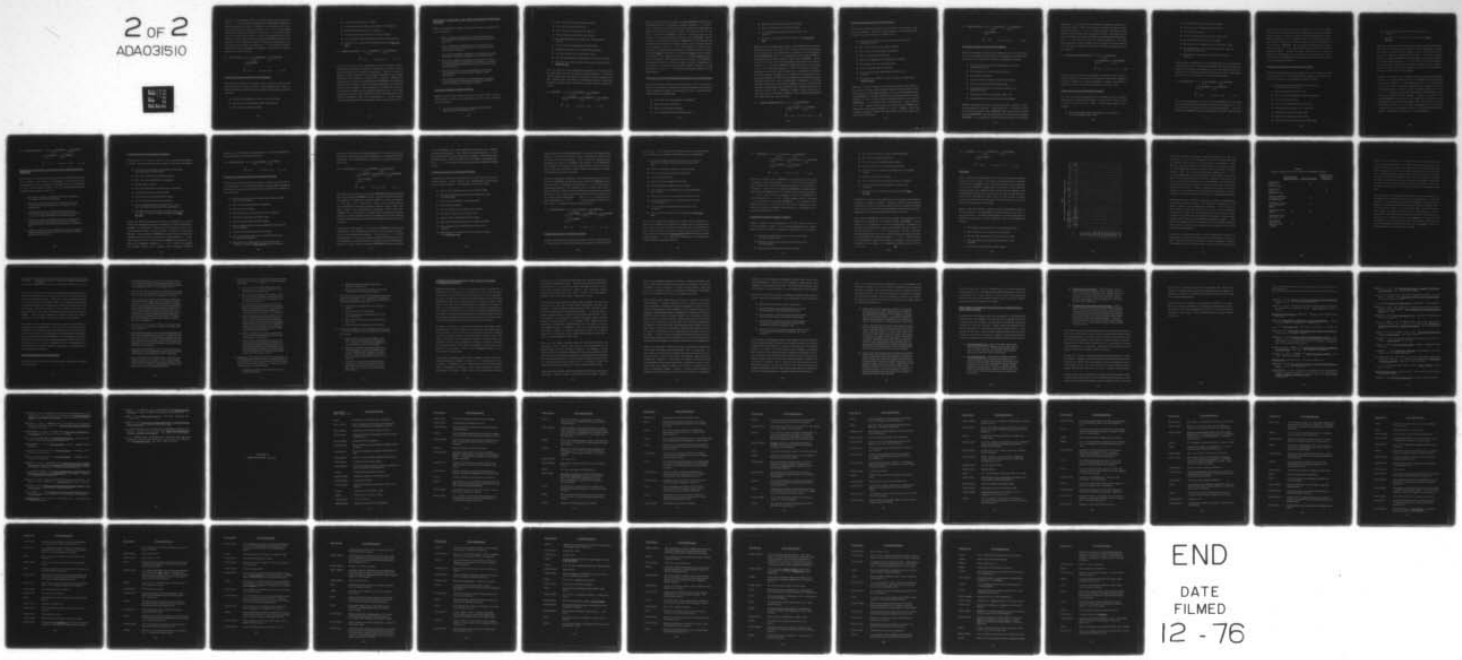

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Direct U.S. participation in the crisis was the single most powerful predictor (β = 0.44) as direct involvement, not surprisingly, leads to increased situational problems. Similarly, severe threat to U.S. interests, the second most important predictor (β = 0.33), was associated with greater situational problems as more direct U.S. involvement (leading to more situational problems) is likely with greater threats to U.S. interests. Finally, shortness of decision time (DECISNS) was positively associated with situational problems, although the relationship is not as strong as with the other two predictors (β = 0.24). Despite the modest explained variance, the pattern in Equation 2 could have occurred by chance only 1 time out of 100.

(2) SITUATIONAL = 0.68 + 1.43 USPARTP + 1.12 THREATH
(3.04) (2.33)

+ 0.81 DECISNS
(1.62)

$\bar{R}^2$ = 0.24 F (3,37) = 4.66 p < .01

Predicting Variations in Human Factors Problems

Human factors problems were found in over 56 percent (23/41) of the post-World War II crises examined. These problems were found related to situations in which the most prevalent characteristics were the following:

- The precrisis buildup occurred in less than 30 days.
- The crisis was international rather than domestic.
- The crisis was politico-military

- Crisis activity lasted over 30 days.
- A moderately severe threat was posed to U.S. interests.
- Crisis resolution required over 30 days.
- Limited timing was available for decision-making.
- U.S. personnel participated directly in the crisis response.
- The major U.S. objective was maintenance of the status quo ante.

(3) $$\text{HUMAN FACTORS} = 0.04 + \underset{(3.44)}{1.10}\ \text{USPARTP} + \underset{(1.66)}{0.58}\ \text{DURCRIE}$$

$$\bar{R}^2 = 0.25 \qquad F(2, 38) = 7.01 \qquad p < .01$$

Once all other factors were controlled, only two of the nine variables that had been individually important in predicting variations in human factors problems were statistically significant. The two variables in Equation 3 show that direct U.S. participation (USPARTP) was strongly associated with variations in human factors problems. Additionally, duration of the crisis over an extended period (DURCRIE) increased the human factors problems as more personal adjustments were required of the crisis participants. The two predictors accounted for 25 percent of the variation in human factors problems that arose from crisis events and reactions, a pattern that could have occurred less than 1 time in 100. Of the two predictors, direct U.S. participation ($\beta = 0.48$) is appreciably more important than is the duration of the crisis activity ($\beta = 0.23$).

PREDICTING VARIATIONS IN THE CRISIS MANAGEMENT OPERATIONS PROBLEMS

Chapter 3 distinguished six types of operations problems associated with crisis management.

1. Support problems (consisting of problems encountered in force readiness and the specific requirements of a crisis operation).

2. Force consideration problems (involving problems associated with the availability and choice of operational units for the crisis response).

3. Force status problems (consisting of combined force status, availability, and support problems in crisis operations).

4. Information inadequacy problems (composed of a cluster of potential difficulties associated with an inability to acquire or transmit needed information in a timely manner for the operational units).

5. Information problems (involving difficulties associated with not having or not being able to transmit needed information).

6. Communications problems (including special communications and logistics requirements imposed by operations in distant locations or in difficult terrain).

Predicting Variations in Support Problems

Support problems were observed in 18 (43.9 percent) of the 41 crises. When support problems were encountered, several crisis predictors were also present.

- Precrisis activity involved routine monitoring rather than focusing on the ensuing events.

- The crisis event occurred without warning.
- The crisis was politico-military.
- The crisis was international, not domestic.
- Crisis activities lasted more than 30 days.
- An extended period was available for crisis decision-making.
- Crisis resolution required more than 30 days.
- A significant threat to U.S. interests was present.
- The crisis threat arose in less than 1 week.
- U.S. personnel directly participated in the crisis response.
- The main U.S. objective in the crisis was restoration of the status quo ante.

After all predictors were examined simultaneously, five were found to be significantly related to variations in support problems. These five, shown in Equation 4, explained only 21 percent of the variations in support problems (after the number of predictors used were controlled). Nevertheless, that pattern could have occurred in only 5 chances out of 100.

$$(4)\quad \text{SUPPORT} = -0.12 + \underset{(1.39)}{0.71}\ \text{PRECRIR} + \underset{(1.50)}{0.60}\ \text{DECISNS} + \underset{(1.79)}{0.78}\ \text{DURPREN} + \underset{(1.62)}{0.60}\ \text{THREATH} + \underset{(1.31)}{0.47}\ \text{TIMING}$$

$$\bar{R}^2 = 0.21 \qquad F(5, 35) = 2.90 \qquad p < .05$$

The occurrence of the crisis without warning (DURPREN) is the strongest single predictor of variations in support problems ($\beta = 0.29$), as lack of warning is associated with greater difficulties in supporting an operation required for the crisis response. At the same time, the severity of the threat (THREATH), precrisis monitoring that was not focused on the activities that became the crisis (PRECRIR), and the shortness of available decision time (DECISNS) were all significantly associated with increases in support problems and contributed equally to the explained variance ($\beta = 0.24$). Interestingly, once other relevant factors are controlled, the counterintuitive finding from the cross tabulations that more decision time is associated with more support problems is reversed so that less decision time is related to more problems. The last predictor, the speed with which the threat arose (TIMING), is also associated with variations in support problems. Rapidly developing threats co-occurred with increased support problems, but the association is weaker ($\beta = 0.20$) than with the other predictors in the final equation.

Predicting Variations in the Problems Produced by Force Considerations

Force consideration problems were observed in 12 (29.3 percent) of the 41 crises examined. Despite the relative infrequency of this type of crisis management problem, several predictors were consistently associated with force considerations.

- The crises were international, not domestic.
- They were politico-military.
- They occurred without warning.
- U.S. interests were severely threatened.

- Rapid crisis decision-making was required.
- Crisis resolution took more than 30 days.
- U.S. personnel participated directly in the crisis response.
- The major U.S. objective was a change in the status quo ante.

Equation 5 jointly considers these factors. Once adjusted for the number of predictors used, 30 percent of the variance in force considerations was accounted for by three predictors: occurrence of the event without warning (DURPREN), direct U.S. participation in the crisis (USPARTP), and the shortness of time in which the threat arose (TIMING). Occurrence of the crisis event without warning is the single most powerful predictor (β = 0.47) in the equation, followed by direct U.S. participation (β = 0.29) and threat timing (β = 0.22). Each of these variables is significantly associated with increased force consideration problems. Once the predictors in Equation 5 are statistically controlled, all other predictors obtained from the cross tabulations are not significantly associated with variations in force considerations. Additionally, controlling for these other factors reverses the finding from the cross tabulations that force considerations are associated with extended timing for the threat to arise. In fact, as Equation 5 shows, threat occurrence in a short time period is positively related to force consideration problems once other key factors are controlled.

(5) FORCE CONSIDERATIONS = - 0.14 + 0.83 DURPREN
(3.32)
+ 0.45 USPARTP + 0.34 TIMING
(2.14) (1.62)

$\bar{R}^2$ = 0.30 F (3, 37) = 6.22 p <.001

Predicting Variations in Force Status Problems

This type of operational problem occurred in 18 (43.9 percent) of the 41 crises examined. These force status problems were associated with several prevalent environmental characteristics.

- Precrisis monitoring was not focused on the events that produced the crisis.
- The crisis event occurred without warning.
- The crisis was international, not domestic.
- The crisis was politico-military.
- The crisis significantly threatened U.S. interests.
- The threat arose over a period of time.
- Crisis resolution took over 30 days.
- U.S. personnel participated directly in the crisis response.
- The major U.S. objective in the crisis was a change in the status quo ante.

Equation 6 presents regression results that account for 28 percent of the variance in force status problems when the most efficient predictors are used. As the equation shows, a crisis occurring without warning (DURPREN) is strongly and positively associated with force status problems ($\beta = 0.43$). The second most powerful predictor, severe threat (THREATH), is associated with increasing force status problems ($\beta = 0.34$). Finally, threats that arise in a short time (TIMING) produced more force status problems ($\beta = 0.21$). Together, these three variables produced a pattern that could have occurred by chance only once out of 1,000 times.

(6) FORCE STATUS = 0.05 + 1.54 DURPREN + 1.11 THREATH
(3.08) (2.47)

+ 0.64 TIMING
(1.45)

$\bar{R}^2$ = 0.28 F (3, 37) = 5.62 p <.001

Predicting Variations in Information Inadequacy

Information inadequacy problems were observed in 18 (43.9 percent) of the 41 crises examined. Based on the cross tabulations, the most important predictors of variations in information inadequacy were that

- Precrisis activity was not focused on the events that produced the crisis,
- The crisis event occurred without warning,
- It was politico-military,
- Crisis activities extended for more than 30 days,
- Crisis resolution took more than 30 days,
- A moderately severe or very severe threat to U.S. interests existed,
- The threat occurred in less than 7 days, and
- Limited time was available for decision-making.

Equation 7 presents the results of attempts to predict variations in information inadequacy problems. Three predictors -- precrisis activity not focused on ensuing events (PRECRIR), the crisis occurring without warning (DURPREN), and limited decision time for the crisis response (DECISNS) -- are positively associated with variations in information

inadequacy. As each occurred, information inadequacy problems became more likely. Failure of precrisis monitoring systems, the most important predictor (β = 0.37), helped to produce information inadequacies in the ensuing crisis management efforts. The absence of any crisis warning that would have permitted the readying of needed information (β = 0.32) was the second most powerful predictor. The least important predictor was the length of time available for decision-making (β = 0.20) where shortness of time made information inadequacies even more salient.

$$(7)\quad \text{INFORMATION INADEQUACY} = 0.24 + \underset{(2.34)}{1.10}\ \text{PRECRIR} + \underset{(2.05)}{0.86}\ \text{DURPREN} + \underset{(1.32)}{0.48}\ \text{DECISNS}$$

$$\bar{R}^2 = 0.26 \qquad F\,(3, 37) = 5.13 \qquad p < .001$$

Once the number of predictors employed is controlled, these three predictors account for 26 percent of the variance in information inadequacy problems. Although the variance explained is modest, the pattern observed could have occurred by chance only 1 time out of 1,000.

Predicting Variations in Information Problems

The cross tabulations indicated that several predictors were systematically related to information problems, a characteristic that occurred in 17 (41.5 percent) of the 41 crises. The following predictors were included:

- Precrisis activity was routine, that is, not focused on the events leading to the crisis.

- The crisis event occurred without warning.
- The crisis was international, not domestic.
- It was politico-military.
- Crisis activities extended for more than 30 days.
- Crisis resolution took more than 30 days.
- The threat to U.S. interests arose in less than 7 days.
- A moderately severe to severe threat to U.S. interests was posed by the crisis.
- Rapid decision-making was required for the crisis response.

Four predictors identified in the cross tabulations are also significantly related to variations in information problems in the regression analysis. These four, displayed in Equation 8, account for almost 30 percent of the variance in information problems with a pattern that is significantly different from chance in all but 1 out of 100 possible times.

$$\text{(8)}\quad \text{INFORMATION} = 0.36 + \underset{(2.13)}{0.85}\ \text{PRECRIR} + \underset{(2.42)}{0.87}\ \text{DURPREN} + \underset{(1.46)}{0.46}\ \text{DECISNS} - \underset{(-1.16)}{0.33}\ \text{THREATM}$$

$$\bar{R}^2 = 0.29 \qquad F(4, 36) = 4.64 \qquad p < .01$$

The lack of forewarning of the crisis event (DURPREN) was the single most powerful predictor of variations in information problems ($\beta = 0.38$) as the absence of warning increases information problems. Precrisis monitoring (PRECRIR) that was not focused on the events that led to the

crisis was the second most powerful predictor ($\beta = 0.34$). As with the absence of warning, the failure of existing monitoring systems to identify the threatening situation contributes to information problems encountered in subsequent crisis management efforts. The third most important predictor, shortness of decision time available to formulate the crisis response (DECISNS), was also positively related to crisis information problems ($\beta = 0.22$). Limited decision time is likely to intensify information needs. Finally, the extent of threat is not a significant predictor in the equation, but controlling for moderately severe threat to U.S. interests (THREATM) increases the precision of other predictors of crisis information problems.

Predicting Variations in Communications Problems

Communications problems were encountered in 22 (53.7 percent) of the 41 crises researched. The following crisis predictors were most prevalent in this type of crisis management problem cluster:

- Routine precrisis monitoring did not focus on the events that led to the crisis.
- No forewarning of the crisis event.
- The crisis was international rather than domestic.
- It was primarily military.
- The crisis period lasted less than 7 days.
- It posed a severe threat to U.S. interests.
- The threat arose in less than 7 days.
- Rapid decision-making was required.
- Crisis resolution occurred in less than 7 days.

- U.S. personnel participated directly in the crisis response.
- The major U.S. objective was to restore the status quo ante.

Equation 9, which presents the results for the best fitting regression for variations in communications problems in crisis management, contains four significant predictors that together account for 30 percent of the variance in observed communications problems. The absence of adequate crisis warning (DURPREN) was the single most powerful predictor of communications problems ($\beta = 0.44$). The lack of prior warning was associated with increased communications problems as prior preparations for secure communications networks could not be arranged without guidance on where they would be needed.

Shortness of decision time to consider the crisis responses (DECISNS) and direct U.S. participation in the crisis (USPARTP) were the next two most powerful predictors. Limited decision time ($\beta = 0.35$) reduced the lead time available to establish communications needed for effective command and control. Similarly, direct U.S. participation in the crisis ($\beta = 0.27$) increased the need for operational communications to link the various command centers together. Finally, the severity of the threat (THREATH) was positively associated with variations in crisis management communications problems. High threat tends to co-occur with shortness of time for crisis decision-making and direct U.S. participation in the crisis response. Hence, it both directly and indirectly leads to communications problems in crisis management.

(9) COMMUNICATIONS = - 0.02 + 1.32 DURPREN + 0.95 DECISNS
(3.14) (2.44)

+ 0.71 USPARTP + 0.71 THREATH
(1.95) (1.94)

$\bar{R}^2$ = 0.30 R (4, 36) = 4.85 p < .01

PREDICTING VARIATIONS IN NATIONAL-LEVEL DECISION-MAKING PROBLEMS

Six national-level decision-making problems were distinguished in Chapter 3. However, one of these six (designated as national-level decision problems) is not considered in this chapter since it only summates two more focused problem clusters. The five remaining national-level decision-making problem clusters are

1. *Intelligence problems* (involving information availability for national-level decision-making),

2. Information evaluation problems (centering on how well or poorly the information held was evaluated in crisis management),

3. Coordination problems (including efforts to organize, secure agreement, and execute a united effort across the various U.S. Government agencies and departments),

4. Constraint problems (composed of both real and perceived factors that reduce the extent to which crisis managers could maneuver in selecting and executing their responses), and

5. Logistics problems (involving difficulties with the adequacy and availability of materiel and facilities needed to support national-level decisions).

Predicting Variations in Intelligence Problems

Although only 16 (39.0 percent) of the 41 crises encountered intelligence problems, several predictors were prevalent in the cross tabulations:

- Precrisis monitoring was routine and not focused on the events that led to the crisis.
- The crisis event occurred without warning.
- The crisis was international, not domestic.
- It was politico-military.
- The crises posed severe threats to U.S. interests.
- The threats arose in less than 7 days.
- Crisis activities lasted more than 30 days.
- Crisis resolution took more than 30 days.
- The United States was not involved in the crisis or gave only limited assistance to the participants.
- The United States did not have any major objectives in the crisis or, at most, wished to maintain the status quo ante.

Despite the individual importance of these nine predictors, very weak results were obtained in the regression analyses, as shown in Equation 10. Together, the predictors account for only 12 percent of the variance in intelligence problems, once the number of predictors is controlled. Extended crisis resolution (CRIRESE) was positively associated with intelligence problems as the most powerful single predictor ($\beta = 0.45$). Time required for the threat to emerge (TIMING) was inversely associated with intelligence problems ($\beta = -0.26$). This term suggests that extended decision time produces more intelligence problems,

perhaps as more demands for unavailable but critical information are made during the decision-making process.

(10) INTELLIGENCE = 0.22 + 0.87 CRIRESE - 0.45 TIMING
(2.49) (-1.41)

$\bar{R}^2 = 0.12$ $F(2, 38) = 3.06$ $p < .10$

Predicting Variations in Information Evaluation Problems

Information evaluation problems occurred in 63.4 percent (26) of the 41 crises examined. Cross tabulation analysis indicated that the following were the most prevalent characteristics associated with variations in these problems:

- A precrisis activity period in which the buildup extended for more than 30 days.
- The crisis was international, not domestic.
- It was politico-military.
- The crisis posed a severe threat to U.S. interests.
- The threat arose over more than 7 days.
- Crisis actions lasted more than 30 days.
- More extended decision time was needed to formulate the crisis response.
- Crisis resolution lasted more than 30 days.
- U.S. participation led to direct confrontation with one or more other countries.
- The major U.S. objective was to alter the precrisis conditions so that the status quo ante was not restored.

A test of all these factors produced Equation 11, in which 38 percent of the variance in information evaluation problems is accounted for with six predictors. The resulting pattern could have occurred by chance only 1 time in 100.

$$\begin{aligned}(11)\quad \text{EVALUATION} = {} & 0.48 + \underset{(3.55)}{1.74}\ \text{DURCRIE} + \underset{(3.39)}{0.95}\ \text{THREATH} \\ & \underset{(-2.87)}{-1.35}\ \text{CRIRESE} + \underset{(2.35)}{0.80}\ \text{TIMING} - \underset{(-1.48)}{0.40}\ \text{DURPREE} \\ & \underset{(-1.44)}{-0.46}\ \text{NATUREB}\end{aligned}$$

$$\bar{R}^2 = 0.38 \qquad F(6, 34) = 4.78 \qquad p < .01$$

The duration of the crisis activity period (DURCRIE) and the time needed for crisis resolution (CRIRESE) were the two most important predictors of variations in information evaluation problems in crisis management ($\beta = 0.86$ and -0.65, respectively). Longer crisis periods produced more information evaluation problems, perhaps because longer time spans produce more information for evaluation. On the other hand, extended crisis resolution time produced fewer information evaluation problems, as the evaluation course for national-level decision-making may have already been set by the time the resolution phase of the crisis occurred.

The severity of the threat to U.S. interests (THREATH) and the speed with which it arose (TIMING) were the next two most important predictors of crisis information evaluation. Severe threats ($\beta = 0.49$) that arose quickly ($\beta = 0.43$) were strongly associated with information evaluation problems, as minimal time was available to evaluate existing data. Similarly, a short precrisis buildup (DURPREE) and politico-military

crises (NATUREB) were both significantly associated with problems in information evaluation. Short precrisis buildup periods ($\beta = -0.22$) give little time for accurate information evaluation. On the other hand, politico-military crises presented fewer information evaluation problems ($\beta = -0.214$) despite the presumably greater complexity of these crises.

Predicting Variations in Coordination Problems

Coordination problems were encountered in 36 (87.8 percent) of the 41 crises examined. These problems were significantly associated with several crisis predictors. The following were most prevalent:

- The precrisis buildup occurred in less than 30 days.
- Indications and monitoring results permitted the crisis to be anticipated.
- The crisis was domestic, not international.
- It was politico-military
- A severe threat to U.S. interests was present.
- The threat arose over more than 1 week.
- Crisis activity extended more than 30 days.
- More than 30 days was required for crisis resolution.
- U.S. personnel participated directly in the crisis response.
- The primary U.S. objective was to introduce a change in the status quo ante.

These predictors, presented in Equation 12, produced very disappointing results, as only 12 percent of the variation in coordination problems was accounted for with six predictors. Two of these six, adequate crisis indications and warning (AWAREA) and domestic crises (CRIACTD), are included in the equation because their presence improves the precision of the other estimators. Neither of these two predictors is significantly different from zero, however.

Of the four significant predictors, the extended duration of the crisis activities (DURCRIE) and extended crisis resolution (CRIRESE) are the two most powerful. Extended crisis activities ($\beta = 0.70$) produced more coordination problems, but extended crisis resolution time leads to less coordination confusion (since all things are apparently coordinated by that time). In a clearly counterintuitive result, politico-military crises produced fewer coordination problems ($\beta = 0.33$). Crises that were more threatening ($\beta = 0.31$) also had more coordination problems as more massive, integrated responses were required.

(12) COORDINATION = 2.40 + 0.60 AWAREA + 1.20 THREATH
(0.91) (1.82)
-1.27 NATUREB - 0.59 CRIACTD + 2.80 DURCRIE
(-1.74) (-0.82) (2.50)
- 2.31 CRIRESE
(-1.97)

$\bar{R}^2 = 0.12$ $F(6, 34) = 1.73$ $p < .10$

Predicting Variations in Constraint Problems

At least one constraint problem was present in 40 (97.6 percent) of the 41 crises and two or more constraints were present in 36 (87.8 percent)

of the crises. The following items include the most important predictors of variations in constraints identified in the cross tabulations:

- Increased readiness prior to the crisis as a series of events occurred that focused activities on the crisis area.
- A precrisis buildup extended more than 30 days.
- The crisis was international, not domestic.
- It was politico-military.
- Crisis activities extended over 30 days.
- Crisis resolution lasted more than 30 days.
- U.S. interests were moderately, severely threatened by the crisis.
- The threat arose over a period of more than 1 week.
- Limited decision time was available to formulate the crisis response.
- U.S. personnel participated directly in the crisis response.
- The major U.S. objective was to maintain the status quo ante.

Seven of these predictors produced the results shown in Equation 13, where (once adjusted for the number of predictors used in the regression) 49 percent of the variation in constraints was accounted for in a pattern that could have occurred by chance only 1 time out of 1,000. U.S. attempts to maintain the status quo ante (USOBJM) are the strongest single predictor ($\beta = 0.61$), since fewer constraints are encountered as crisis managers pursue this objective.

(13) CONSTRAINT = 5.39 - 3.29 USOBJM + 2.35 DECISNS
(-4.70) (3.79)

+ 1.54 USPARTP - 1.28 THREATM + 1.33 PRECRII
(2.80) (-2.42) (2.46)

- 1.83 DURPREE + 1.38 DURCRIE
(-2.86) (2.30)

$\bar{R}^2$ = 0.49 F (7, 33) = 6.25 p < .001

Shortness of decision time (DECISNS) was associated with increased constraints on the crisis manager (β = 0.55) as U.S. responses in these conditions are carefully coordinated for impact. At the same time, responses to longer precrisis buildups (DURPREE) encountered fewer constraints since additional time is available to plan various alternatives (β = - 0.45). Direct U.S. participation in the crisis (USPARTP) increased constraints (β = 0.38), as did extended precrisis readiness (β = 0.30) and long crisis periods (DURCRIE, β = 0.31). However, fewer constraints exist for crises that are less severe. Moderately severe threat was inversely associated with variations in the number of constraints encountered (β = 0.31).

Predicting Variations in Logistics Problems

Logistics problems were encountered in 32 (78.0 percent) of the 41 crises researched in detail. Cross tabulation suggested a set of predictors of these problems, including the following as most prevalent:

- Precrisis attention focused on a series of events that led to the ensuing crisis.
- Indications and warning systems permitted the crisis to be anticipated.
- The precrisis buildup took more than 30 days.

- The crisis was domestic rather than international.
- The crisis was politico-military.
- The crisis period extended beyond 30 days.
- A severe threat to U.S. interests was present.
- The threat to U.S. interests developed over an extended period.
- Rapid decisions were required.
- Crisis resolution took more than 30 days to complete.
- U.S. personnel participated directly in the crisis response.
- The primary U.S. objective was to restore the status quo ante.

As Equation 14 shows, these predictors are only weakly associated with variations in logistics problems. Together, the three most efficient predictors account for 17 percent of the variations in logistics problems in the 41 post-World War II crises and produce a pattern that can be distinguished from chance approximately 5 times out of 100.

Severe threat (THREATH) is the most powerful of the predictors, followed by the duration of the precrisis buildup (DURPREE). Severe threats to U.S. objectives ($\beta = 0.39$) increased logistics problems, but the lead time permitted by a long crisis buildup reduced the number of logistics problems ($\beta = -0.37$). Paradoxically, however, indications monitoring that permits the crisis to be anticipated was weakly but positively associated with logistics problems ($\beta = 0.24$). While this result is counterintuitive and would probably be changed if more powerful predictors were available, it is significantly different from zero ($0.10 > p < 0.05$).

(14) LOGISTICS = 1.90 + 1.38 THREATH - 1.32 DURPREE
(2.46) (-2.06)

+ 0.98 AWAREA
(1.53)

$\bar{R}^2$ = 0.17 F (3, 37) = 3.31 p < .05

SUMMARY

Table 1 summarizes significant terms in the 14 regression equations presented in this chapter. The regressions used to predict variations in the crisis management problem clusters produced weak to moderately strong results, with $\bar{R}^2$'s ranging from 0.12 to 0.49. Several additional statistical steps that might have improved the fit of the equations (such as examining variations within the three crisis time periods and interaction terms combining the impact of two or more relevant variables) were not systematically applied given the limited number of cases on which these analyses have been based.

Despite these reservations, a number of interesting findings on sources of the variation in crisis management problem clusters across the crises have emerged. As Table 1 demonstrates, five of the predictors are significantly related to at least one-third of the crisis management clusters.

1. Limited time was available for crisis decision-making.
2. Severe threat to U.S. interests was presented.
3. The precrisis buildup occurred in less than 30 days.
4. U.S. personnel were directly involved in the crisis response.
5. Crisis activities lasted more than 30 days.

TABLE 1

Summary of Regression Results for the Crisis Management Problems

Problem Sets	Precrisis Situation		Awareness of Crisis Possibility		Duration of Precrisis Period		Involvement		Crisis Period		Crisis Resolution		Threat to the United States		Threat Timing		Decision Time		U.S. Participation		U.S. Objectives	
	Routine	Increasing Buildup	Anticipated	Surprise- No Forewarning	Short Period	Extended Period	Politico-Military	Other	Short	Extended	Quick	Extended	Moderate	High	Short	Extended	Short	Extended	Direct	Confrontation	Status Quo	Change Status
Action Problems				+										+	+				+		–	
Situation Problems														+			+		+			
Human Problems										+									+			
Support Problems	+				+									+	+		+					
Force Considerations					+									+			+		+			
Force Status Problems					+												+					
Information Inadequacies	+				+												+					
Information Problems	+				+												+					
Communications Problems					+									+			+		+			
Intelligence Problems										+						+						
Evaluation Problems						–	–			+		–		+	+							
Coordination Problems						+	–					–		+								
Constraints		+				–				+			–				+		+		–	
Logistics Problems			+			–				+												

The first two of these predictors, significantly related to 8 and 7, respectively, of the 14 crisis management clusters, have often been used as defining characteristics of international crises (Herman, 1969b). However, they have not been previously linked to the number and types of crisis management problems encountered in both domestic and international crises. The next three predictors, significant in 6, 6, and 5 regression equations, respectively, deal with the length of the precrisis and crisis periods and the form of the U.S. response. Since most of the crises considered involved direct U.S. participation, this variable was expected to be important. Similarly, short crisis buildups are commonly associated with crises. However, extended phase-downs were not expected to be as important since the image of international crises presented in much of the existing literature implies rapidly ending situations.

A different perspective on the key explanatory variables is obtained when the predictors shown in Table 1 are grouped by importance for the different types of crisis management problems. Table 2 shows the most powerful predictors for each of the three crisis management problem sets. Direct U.S. participation in the crisis response is most strongly related to the crisis event and reaction cluster, but only weakly related to most of the crisis management operations problems. Thus, direct participation in the crisis response by U.S. personnel generates more action, situational, and human factors problems and relatively fewer operations problems.

Variations in operations problems are best predicted by shortness of decision time for the crisis response and a crisis buildup of less than 30 days. These are significantly related to all of the operations. Precrisis monitoring that was not focused on the crisis events and a severe threat

TABLE 2

Summary of Regression Results by Type of Crisis Management Problem

	Crisis Event and Reaction Problems	Operations Problems	National-Level Decision-Making Problems
Crisis buildup occurs in less than 30 days		X	
Crisis buildup occurs in more than 30 days			X
Precrisis monitoring not focused on ensuing or related events		X	
Limited time available for crisis decision-making		X	
Severe threat to U.S. interests	X	X	
Crisis activities last more than 30 days			X
U.S. personnel directly participate in the crisis response	X		

posed to U.S. interests are also significantly associated with three of the six operations problems. In short, the predictors of operations problems closely resemble the crisis pattern most commonly discussed in the academic literature in which sudden buildup, shortness of decision time, inadequate warning, and severe threat to national interests define the crisis. Evidence developed in this research, however, indicates that these characteristics are most commonly associated with operations problems. They are less strongly associated with either crisis event and reaction or national-level decision-making crisis management problems.

More extended crisis buildups and activities are the two most common predictors of national-level decision-making problems. Thus, the problems of intelligence acquisition and evaluation, interagency coordination, constraints on options evaluated, and logistics needed for operations are most commonly associated with longer buildup and phase-down. Again, the image commonly found in the literature, that is, national-level decision-making problems associated with shortness of decision time, severity of threat, and inadequate crisis warning and anticipation, has not been supported in this analysis. National-level crisis management problems become more severe as more -- not less -- information and time for action are available.

CHAPTER 6. POTENTIAL USES OF FINDINGS IN CRISIS MANAGEMENT PLANNING

The first five chapters of this Final Technical Report examined 289 incidents identified between 1946 and 1975 that involved extraordinary military management activity. Data on the crises, including a sample of 41 crises examined in greater detail, were analyzed to distinguish relationships among crisis management problems and among the crisis environment, crisis characteristics, crisis responses, and crisis management problems. The research produced several significant empirical findings. Some of these findings are inconsistent with the academic literature on crises; others clarify parts of the crisis literature.

This chapter reviews potential uses of the major research findings in planning for crisis management. The first section recapitulates major research accomplishments, and the second section evaluates their implications for improved crisis management in the Department of Defense. It also recommends utilizing the findings for crisis management planning. The final section of the chapter examines potential human factors problems that may arise in crisis management if the recommendations -- including some involving new types of technology -- are implemented in crisis management planning.

MAJOR RESEARCH ACCOMPLISHMENTS

Completion of the research tasks required under this contract produced 11 achievements.

1. Existing definitions of "crisis" were reviewed, and a more elaborate definition centering on changes in military management activity was formulated to identify the crisis incidents that have occurred since 1946.

2. Unclassified sources were used to identify 289 incidents that met the crisis definition. These crises formed the basis for the first phase of the empirical research.

3. Time plots of the crises were examined to identify historical periods that appeared to have different characteristics. The incidents can be broken into roughly three crisis periods. The first (1946-1953) ends with a rise of new leadership in the United States and the Soviet Union. The second (1954-1965) coincides with major changes in U.S. -Soviet relations after the Cuban missile crisis and the Nuclear Non-Proliferation Treaty and the rise of new leadership in each country. The third (1966-1975) appears to be an era of relative detente among the superpowers.

4. The 289 crises were coded on 20 key variables describing the crisis, the environment in which it occurred, and U.S. responses.

5. Relationships among the crisis environment (specifically, indications and warning), the crisis descriptors (such as the extent of threat, the amount of available decision time, the nature of the crisis, and the number and type of parties involved) as predictors to U.S. objectives and responses in the crisis were examined across the three historical crisis periods.

6. A sample of 41 incidents was selected for more intensive analysis of the crisis management problems encountered in developing and executing U.S. policy responses.

7. Over 70 potential crisis management problems were coded for each of the 41 cases. These crisis management problems were grouped into those dealing with the crisis event and reaction, operations problems, and national-level decision-making problems.

8. Variations in the crisis management problems encountered in the 41 crises were analyzed. These analyses showed that

   a. The crisis situation developed slowly, but the actual crisis occurred suddenly in more than 40 percent of the cases.

   b. Several crisis management problems arose as U.S. military personnel and units became involved in the crisis after the situation had severely deteriorated.

   c. Increasing problems arose involving information handling and indications and warning. Between 1966 and 1975 over 35 percent of the crises developed as the United States was monitoring one or more other crisis situations.

   d. More frequent force status, training, availability, and disposition problems were observed. Force readiness was a problem in 50 percent of the post-1966 crises (compared to only 20 percent prior to 1966). Communications security seriously constrained operational information handling in over 40 percent of the cases after 1966.

   e. Crisis responses have slowed appreciably over time as increased effort must be devoted to interagency coordination.

   f. Domestic and international political considerations have increasingly constrained U.S. Government responses. Domestic policy (39 percent of the crises) and international policy considerations (over 50 percent of the crises) were very important to crisis decision-making by the 1966-1975 crisis period.

9. Significant relationships were discovered among the crisis management problem clusters, suggesting that the occurrence of certain specific types of crisis problems leads to other crisis problems. Particularly strong relationships were found between

   a. Situational problems and operational communications problems,

b. Situational problems and national-level logistics problems, and

c. Information inadequacy problems in operations and national-level logistics problems.

10. The key predictors of each crisis management problem cluster were identified. The consistently strongest predictors of variations in crisis management problems in 41 post-World War II crises were

    a. Limited time available for crisis decision-making,

    b. Severe threat to U.S. interests,

    c. U.S. personnel participating directly in the crisis response,

    d. The crisis buildup occurring in less than 30 days, and

    e. Crisis activities lasting more than 30 days.

11. Important variations in the strength of the predictors across the various types of crisis management problems were found.

    a. Crisis event and reaction problems were best predicted by the severity of threats to U.S. interests and direct participation by U.S. personnel in the crisis response.

    b. Operations problems were best predicted by crisis buildups in less than 30 days, pre-crisis monitoring not focused on ensuing events, limited time available for crisis decision-making, and severe threats to U.S. interests.

    c. National-level decision-making problems were most closely associated with crisis buildups that occurred over more than 30 days and crisis activities that lasted more than 30 days.

ASSESSING THE IMPLICATIONS OF THE FINDINGS FOR CRISIS MANAGEMENT PLANNING

Adequately preparing for crisis management involves planning for as many potential contingencies as available time, staff, and resources will permit. Since each of these planning assets is a scarce commodity, each must be used most effectively by concentrating on areas that have the highest priority in U.S. national interests. While it is useful to know where crises have occurred historically (as presented in Chapter 2, Table 1), such information is not sufficient to improve the planning process. Hence, one of the objectives of this research was to identify factors that should be considered and approaches that should be taken to insure that available planning assets are best used to cope with the most significant crisis management problems that may arise in the future.

A careful review of the crises points to several recurrent problem areas. Identifying these provides guidance for actions that may minimize future crisis problems. The 41 crises were intensively analyzed to identify repetitive groupings of factors that characterize the nature of the crisis and its significant crisis management problems. These analyses indicated that certain crisis management problems are likely, depending on the characteristics of the crisis environment in which they occur. Moreover, the presence of some crisis management problems makes other problems more likely.

The findings reemphasized the need for renewed concern over short-range forecasting procedures to depict the 3- to 12-month future more accurately. Increasingly severe problems were observed with inadequate or inappropriate contingency plans despite improved indications and warning information. Better short-term forecasting procedures

would help to tie the improved indications and warning capability to more adequate contingency plans. Such short-term forecasting efforts should involve all command levels where contingency plans are developed. Timely planning responses, based on more systematic reading of the available information, will help to reduce crisis management problems and increase the effective range of U.S. policy.

While better warning information did become available over the three crisis periods, many gaps remain between acquisition, analysis, and response. These problems intensify during crises when the volume of available information substantially increases. A growing body of analysis suggests that many of the surprises that produced major crises were based on a misreading of available information rather than the absence of key data (Ben-Zvi, 1976; Shlaim, 1976). Deputy Secretary of Defense Clements has commented that he is not familiar with any "horrendous failures of intelligence" that can be attributed to missing information. Rather, he notes, intelligence failures are analytical failures as "the analysts and the system didn't allow the raw data to surface" (quoted in Church, 1976: 345).

Even given the highly uncertain nature of intelligence analysis and assessment, some problems that arise in crisis management can be eased through improved intelligence analysis. Accordingly, training directed at more systematic assessment of political and military indicators could increase warning capabilities and expand the time available for crisis decision-making. Hence, executive aids that evaluate cognitive processes (particularly organization of information, recall, and evaluation) should be explored in a more problem-oriented setting.

The results also show that crises increasingly fall into some very explicit categories. They are either resolved very quickly (under 7 days) or

go on for an extended period (over 30 days). Crises increasingly occur while another heavy military monitoring effort is ongoing, thus limiting the ability of crisis managers to evaluate warning signals. They also involve much greater effort at interagency coordination in formulating the crisis responses that the U.S. Government will follow.

Each of these areas should become a focus for training U.S. military crisis managers. Attention should be given to training for these new crisis parameters (including simulations designed for training in decisions) to help prepare crisis managers for the problems that can be expected in obtaining interagency coordination or reporting to NCA level authorities when normal command channels are interrupted. Similar efforts should be directed toward evaluating the impact of long-term stress on work efficiency in settings that reflect the increased problem of long-term crisis monitoring. Information-processing aids that highlight critical information on potential problems that might develop in one area as an existing crisis is being followed in another should also be sought. In short, careful training and analysis using these increasingly common parameters of crisis behavior can improve the quality and speed of decision-making and response execution in crisis management.

Finally, the data show a dramatic increase in problems associated with force status, availability, and training since 1966. In large part, this result reflects the diversion of attention and constraints placed on military forces and available funds within the defense budget during the Vietnam war. However, it also reflects the need for increased training and orientation toward rapid deployment in unfamiliar terrain. These force status and readiness problems are likely to continue for some time as constrained budgets continue. If more accurate readings of indications and warning data can be tied more closely to contingency

planning, and more adequate contingency planning tied to force training and deployment, the impact of the budgetary constraints on force readiness can be somewhat alleviated. With these goals achieved, some of the major recurrent problems in crisis management can be reduced.

In short, the burden of the empirical findings generated in this research project suggest that planning for crisis management can be improved by

- Renewed attention to short-term forecasting,
- Better indications and warning analysis to provide decision-makers with greater decision time,
- Executive aids to improve the speed of information usage and the quality of the analysis performed,
- Systematically attacking the intra- and interagency coordination problems through decision-training simulations and other exercises, and
- Reducing force status problems so that military assets are positioned and trained as needed for the crisis response.

The Cybernetics Technology Office of the Defense Advanced Research Projects Agency (ARPA/CTO) can have an important impact on programs emphasizing the development of executive aids that assist the planning process. In essence, an executive aid is any technique or procedure that restructures the method by which problems are analyzed, alternatives developed, and decisions chosen. Some versions use interactive, computer-based systems in which the substantive expert interfaces with the machine to produce results. Executive aids do not produce totally automated decisions, nor do they eliminate the need for expertise and professional judgment. Rather, they augment and enhance the capabilities of decision-making personnel to perform effectively and efficiently.

Since crisis recognition and the coordination for a crisis response were recurrent problems, an executive aid that responds to both by signaling the kinds of problems that are likely given specific conditions would be particularly valuable. Once the likely problems are identified, assistance in coordinating responses across the agencies could also be provided. An interactive executive aid with these characteristics might operate in a multiple-step sequence.

- After sign-on at the computer terminal, the program prompts the user to enter responses for a number of environmental descriptors that the empirical analysis has indicated are important. For example, questions will be forthcoming on the current state of readiness, whether tensions have been building in the region, the type of crisis (domestic or international), and so forth.

- These responses would be stored, and the likely pattern of crisis management problems given these environmental conditions would be retrieved and printed. Thus, if the empirical analyses of crisis cases show that difficult terrain, limited precrisis tension, and absence of available contingency plans are usually associated with logistics problems, the action officer would be so informed. Both the problem area (logistics) and the specific crisis management problems within that area (problems with lift availability, needed communications, and so forth) would contribute, in order of importance, to the design and execution of the crisis response.

- The aid would then prompt the user to determine whether information was desired on the appropriate persons to contact to held deal with these problems. If the action officer sought help, data on the names and locations of the appropriate counterparts would be displayed. In the logistics problem case, for example, information on who should be contacted in the Joint Staff, Office of the Secretary, the military services, and at the theater level would be displayed. With this information, standard contacts could be made to facilitate more complete response development and execution.

Such an executive aid could be designed from the evidence generated in this research effort. Subsequent development would await more complete analyses on a larger number of crisis cases. The prototype aid would be interactive and computer-based to assist in the very complex process of military management in crises.

SOME HUMAN FACTORS IMPLICATIONS OF NEW CRISIS MANAGEMENT TECHNOLOGIES

Introducing new technologies into crisis management in the Department of Defense calls for changes in the way that newly acquired information is handled and policy response coordination is accomplished. Suggested changes that may seem minimal to those outside the planning process may be considerable to those who are directly involved. Hence, careful attention to the need to operate within existing institutional constraints is required. Given these conditions, attempts to develop and implement such new technologies should continually emphasize four basic principles.

- Demonstrable success. New technologies must be designed around highly probable successes rather than on more speculative areas. Without demonstrable assistance to users, the tools will continue to be viewed as intrusions on the life of the crisis planner.

- Tractable problems. Grand projects should be analytically refined into problems that can be dealt with in sufficient detail to make the solutions interesting to the analysts at the end of the development period. Attention should focus on recurrent problems. Product design should involve user inputs. The action officers may be unable to articulate what is wanted. At other times, they may have the solution and merely need a technology to assist them.

- Reactive user involvement. Where possible, user involvement should be reactive. Since planners are normally overburdened, additional time demands are likely to be met with increasing resistance. Hence, where possible, all available information should be digested and the initial design made so that the user can react to specific recommendations.

- Training and socialization of key personnel. Demonstrable success is the first key toward ultimate adoption of tools in the crisis planning process. The second key is training on how to use the executive aids. Key management personnel must be convinced that faster production and a better product will result as action officers have more time to piece the patterns together. To do this, all involved must be socialized to the new aids through incentives for use, and responsiveness to shortcomings seen by the users.

Work should proceed in three different areas to maximize these principles. First, information storage, retrieval, and manipulation aids should be developed to meet recurrent analysis problems. Input on these areas from those knowledgeable in the process is central to project selection. Wisely chosen, the problems selected will be as important at the end of the development as at the start. Moreover, given the state of technology, they will have a higher chance of success.

Second, work on aids to study association among characteristics should be initiated. Emphasis should be placed on readily usable pattern identification and pattern search procedures that are formatted for users. These should involve basic data displays and more elaborate aids to identify patterns and variations over time in a highly focused manner.

Finally, initial work should begin on complex impact assessment tools, a major area of uncertainty in the development of executive aids. Work should proceed toward identifying a class of problems that can be dealt

with over the required research and development time and still be relevant to analysts upon completion. Toward this end, surrogates for current users (such as recently retired military personnel) can be used for testing and development.

Whether this research agenda or an alternative is followed, it is important to meet the four principles for developing and implementing executive aids in the crisis management process. If care is not taken to meet each of the criteria, even the best tools will not gain marginal acceptance.

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APPENDIX A

CRISIS INVENTORY: 1946-1975

Time Period (Year, Month, Day)	Crisis Identification
460116-	Establishment of Jewish State in Palestine.
460119-461206	Iran independence and trouble ousting Russian forces, particularly in Azerbaijan province.
460121-460800	Communists try to gain control in Greece.
460316-461016	Communist Chinese-Nationalist conflict focused in Manchuria.
460604-460801	Yugoslavia-Trieste dispute.
460824-461009	Soviet demand for participation in defense of Dardanelles.
470118-481231	Renewal of Chinese Communist-Nationalist civil war.
470123-481231	Greek civil war against Communist guerrillas.
471112-471214	Communist riots widen in Italy.
471120-480205	The Soviet Union informs Iran that cancellation of their oil treaties is hostile action.
471222-	Panama base agreement rejected.
480220-480225	Communist takeover of Czechoslovakia.
480320-480917	Israel-Arab conflict.
480325-490512	Worsening tensions with the Soviet Union over Berlin.
480425-	Communist riots in Kobe, Japan.
480510-	Elections in U.S. Zone, Korea.
480510-480709	U.S. rail strike.
480628-480721	Yugoslav expulsion from Cominform.

Time Period	Crisis Identification
481211-481219	Costa Rica invaded by rebels from Nicaragua.
490114-490921	Worsening of the Chinese civil war.
490204-490504	British and U.S. authorities in Germany impose counterblockade.
490520-	The United States and Britain reject Soviet suggestions for compromise settlement of Greek civil war.
490709-490725	Soviet authorities close all zonal crossings except one to truck traffic bound for Berlin from West Germany.
490923-	Atomic explosion in the Soviet Union.
491001-491007	The Soviet Union attacks creation of Federal Republic of Germany as violation of existing agreements. Creation of German Democratic Republic (GDR) proclaimed.
491029-491123	Chinese Communists arrest Angus Ward, U.S. Consul General, and four aides in Mukden, Manchuria.
491115-491203	Chinese Nationalist warship blockading port of Shanghai shelled and damaged U.S. merchant ship.
491208-	Chinese Nationalist regime moves to Formosa.
491222-	Japan asserts it is not bound by Yalta Pact and has legal claims to Okinawa, Iwo Jima, the Bonins, and parts of the Kuriles and Sakhalin.
500105-510420	President Truman bars any form of U.S. military aid or intervention in Formosa.
500126-500218	U.S., British, and French commandants protest continued restrictions by Soviet authorities on truck traffic in and out of Berlin.

Time Period	Crisis Identification
500319-	Presence of two U.S. destroyers in harbor of Saigon touches off allegedly Communist-inspired demonstrations.
500411-500505	A Soviet fighter shoots down a B-29-type bomber over Latvia after it had penetrated Soviet territory. The United States charges that Soviet fighter planes had shot down an unarmed U.S. Navy plane over the Baltic Sea.
500515-	Soviet Government charges in note to Iran that U.S. technicians are taking aerial photographs of Soviet-Iran frontier.
500621-	Romania's attacks against the United States are denounced in a U.S. note acceding to Romanian demand for recall of an assistant U.S. military attache.
500624-520523	U.S. rail strike.
500625-500630	North Korea launches full-scale attack on South Korea.
500627	7th Fleet interposes in Taiwan Straits.
501030-501101	Uprising of Nationalist party members seeking immediate independence breaks out in Puerto Rico. Two assassins, identified as Puerto Rican Nationalists, attempt to kill President Truman (501101).
510122-	Czechoslovakia charges that U.S. planes were making unauthorized flights over Czechoslovakian territory.
510207-	The United States demands that the Soviet Union return at once 672 vessels loaned during World War II.
510309-	Yugoslavia threatened by Soviet troops.

Time Period	Crisis Identification
510509-510511	Panamanian coup ousts President Arias.
510606-	United States demands that Soviet Government punish Soviet soldier who killed a U.S. corporal in Vienna.
510609-	U.S. Army forcibly removes 3-man Soviet repatriation mission from U.S. Zone to Soviet Zone in Austria.
510624-	The United States demands release by Czechoslovakia of two NATO pilots who landed their planes there.
510716-	Martial law proclaimed in Tehran and suburbs of Iranian capital after violent Communist-inspired, anti-U.S. riots.
511119-511228	U.S. Air Force transport plane lost on flight from Munich to Belgrade forced down in Hungary by Soviet fighter plane.
511124	The United States charges that a U.S. Navy plane missing over northern Japanese waters had been shot down by Soviet fighter planes outside Soviet territory.
520123-520425	The United States announces withdrawal of military aid from Iran for failure to conform to provisions of the Mutual Security Act.
520201-520404	Argentine shore patrol fires on British survey vessel arriving at Hope Bay, Antarctica.
520212-	General Ridgeway protests seizure by Soviet forces of about 200 Japanese fishing vessels off northern coast of island of Hokkaido.
520223-	Indonesian Premier and cabinet resign over differences concerning acceptance of U.S. aid under the Mutual Security Act.
520227-521021	Communist germ warfare charges.

Time Period	Crisis Identification
520429-	French passenger airliner flying from Frankfurt to Berlin attacked by two Soviet jet fighters.
520507-520619	Communist prisoners-of-war seize Brig. Gen. Dodd, camp commandant on Koje Island.
520630-	U.S., British, and French high commissioners in Germany renew protests to Soviet authorities against interference with traffic on the Berlin-Helmstedt autobahn by East German authorities.
520926-521008	Pravda accuses U.S. Ambassador Kennan of malicious hostility and the Soviet Government demands recall of Kennan.
521001-	Chinese Communist prisoners riot on Cheju Island.
521008-	Two Soviet jet fighters harass a U.S. ambulance plane en route to West Berlin.
521012-521017	Soviet Government charges that a U.S. B-29, reported missing off Japan, violated Soviet territory and disappeared seaward when fired on by Soviet fighters.
521021-521103	Allied authorities in Germany reject Soviet demands that anti-Soviet groups in West Berlin be disbanded.
521029-	Train carrying eight U.S. tanks to West Berlin is stopped at the border of the Soviet Zone by Soviet authorities.
521104-	Fighter plane with Soviet markings intercepted over Hokkaido Island, Japan, by two U.S. planes and escorted back to Soviet territory.
521215-521222	U.N. POW Command reports new outbreak of rioting at camp on Pongnam.
530118-	Navy bomber shot down off South China while patrolling Formosa Straits.

Time Period	Crisis Identification
530122-	People's Republic of China claims it shot down a U.S. B-29 bomber over Manchuria.
530216-	Two U.S. jets fire on two Soviet fighters over Hokkaido, force their withdrawal.
530228-531120	Iranian Premier Mossadegh forced to flee home by pro-Shah mobs.
530305-530308	Soviet jet flown by Polish pilot to Denmark.
530310-530314	U.S. Air Force F-84 shot down by two Czech MIG-21's over U.S. Zone, Germany.
530312-530319	Soviet jets shoot down British bomber in Berlin air corridor.
530317-530325	Soviet aircraft attack U.S. Air Force RB-50 on weather reconnaissance mission 25 miles east of Siberia.
530326-540406	Burma submits formal complaint to the United Nations on aggression in Burma by 12,000 Chinese Nationalist troops.
530429-540811	Vietnam insurgency.
530520-	Another Soviet jet flown to Denmark by Polish pilot.
530617-530709	East Berlin riots, martial law declared.
530727-530731	Soviet Union charges that four U.S. fighters shot down Soviet passenger plane over Communist China.
530729-530731	United States protests shooting down of U.S. RB-50 over Sea of Japan.
530829-531220	Italian troops alerted that Yugoslavs plan to annex Yugoslav zone of Trieste.

Time Period	Crisis Identification
530921-530924	North Korean pilot lands Soviet MIG fighter at Kimpo Airfield, Seoul.
531015-541102	Israel and Jordan trade guerrilla attacks and complaints as Israelis attempt to divert waters of Jordan River.
540201-	United States shoots down Soviet jet fighter off Korean coast.
540312-540425	Two U.S. military aircraft from carrier in Mediterranean attacked by Czech MIG near German-Czechoslovakia border.
540704-540715	Czechs seize, later release seven U.S. soldiers at Czech border.
540724-540726	Planes from U.S. aircraft carriers engaged in sea-air rescue for British airliner shoot down two Chinese aircraft.
540809-541205	Tachens Islands crisis.
540814-540915	Quemoy-Matsu.
541107-	U.S. reconnaissance plane shot down over Japan.
550102-550115	Guizado takes over as President of Panama upon assassination of President Remon.
550109-550125	Costa Rica fights Nicaraguan rebels.
550110-550225	Communists attack the Tachen Islands.
550128-550904	Egyptian and Israeli forces fight a serious engagement in the Gaza area.
550510-	U.S. jet fighters shoot down two Communist jets after being attacked over international waters off North Korea.

Time Period	Crisis Identification
550624-550708	Soviet planes shoot down U.S. Navy patrol aircraft over international waters in the Bering Straits area.
550727-	Tito declares he will not permit U.S. supervision of military equipment granted to Yugoslavia under the U.S. aid program.
550804-	Soviet Union resumes testing nuclear weapons.
550818-	U.N. command protests shooting down of unarmed U.S. training plane in the Korean demilitarized zone.
560108-560510	Incidents in various Arab countries and Israel reflecting continuing terrorism, majority between Jordan and Israel, some internal to Jordan apparently stimulated by Egypt.
560710-	Soviet Government charges that U.S. aircraft recently violated Soviet air space in flights as deep as 200 miles within Soviet borders.
560716-	U.S. Government charges the Soviet Union with holding at least 10 crew members from two downed U.S. military aircraft.
560719-570309	Tensions in the Middle East. Seizure of the Suez Canal. War in the Sinai.
560831-	U.S. Navy patrol bomber shot down by People's Republic of China north of Formosa.
560802-560806	National Guardsmen enforce school integration in Clinton, Tennessee, and Sturgis, Kentucky.
561021-561217	Gomulka takes over in Poland, faces down Soviet politburo, expels Marshal Rokosovsky, secures Soviet agreement and support.
561023-561215	Hungarian revolution quelled by Soviets.

Time Period	Crisis Identification
570107-570121	RAF fighters in Aden attack intruders from Yemen.
570414-570525	Hussein in a military coup ousts pro-Egyptian elements in the Jordanian Army and Government.
570426-570505	Honduras and Nicaragua argue over their border. Honduras drives Nicaraguan troops out of Honduran border town. The OAS establishes a committee to prevent war.
570524-	U.S. Embassy wrecked in anti-U.S. riots in Taipei.
570613-	Peking radio alleges it damaged a U.S. carrier-based aircraft with anti-aircraft fire.
570801-590101	Civil war in Cuba as Castro moves to power.
570813-571030	Syria expels three U.S. diplomats and charges U.S. plot to overthrow the regime. The United States expels Syrian diplomats in return. Soviet influence in Syria increases.
570901-580617	French military clashes with Tunisia.
570904-571021	President Eisenhower mobilizes entire Arkansas National Guard and sends in Federal troops to integrate Little Rock schools.
571004-580131	The Soviet Union launches Sputnik I.
571229-	German Democratic Republic announces Western diplomats will have to obtain GDR visas rather than Soviet visas for Berlin.
580418-	United States rejects Soviet allegation of provocative nuclear bomber flights over the Arctic.
580509-581025	Lebanon crisis.
580513-581013	French Army rebels seize Algiers, demand return of De Gaulle.

Time Period	Crisis Identification
580513-5805	Vice President Nixon's car attacked by hundreds of demonstrators in Caracas, Venezuela. President sends four companies of paratroops and marines to Caribbean.
580629-	U.S. transport forced down by Soviet jet fighters near Yerevan in Soviet Armenia.
580806-581008	Communist Chinese activity increases in Taiwan Straits as the Quemoy-Matsu crisis flares up.
581016-	The Soviet Union charges U.S. military aircraft are flying reconnaissance missions over Soviet territory in the Far East.
581114-590928	Khruschev warns that the Soviet Union is preparing definite proposals to end Allied administration of West Berlin.
590226-	U.S. Navy boards a Soviet trawler off Newfoundland while investigating damage to five transatlantic cables.
590416-590511	Panama unsuccessfully invaded by Cuban forces.
590517-	Matsu Islands heavily bombarded.
590615-	U.S. Navy patrol plane damaged by MIG's over the Sea of Japan.
590623-590710	Dominican Republic crushes Cuban-supported invasion force.
590730-591231	Laos Army posts attacked during large-scale Communist guerrilla raids.
590909-591224	Chinese kill in Ladakh and Kashmir as Chinese troops are reported in heavy concentrations on the Indian border.
600111-610103	Growing dissension between the United States and Cuba.

Time Period	Crisis Identification
600119-	Dissensions rising from U.S. -Japanese Mutual Security Treaty.
600213-	France becomes a nuclear power.
600309-600402	Confrontations in West Germany and Berlin.
600426-600623	Six thousand students clash with police in Tokyo in demonstration against security treaty.
600501-600819	U.S. U-2 reconnaissance plane shot down; pilot captured.
600524-	Soviet Army agrees to release nine U.S. airmen and their plane forced down in East Germany.
600527-600530	Turkish armed forces take control of Turkey in a nearly bloodless coup.
600609-600616	Continuing tensions in Japan force cancellation of Eisenhower's visit.
600710-601212	Congo crisis.
600711-610125	Soviet Union states a missing RB-47 was shot down over Soviet territorial waters in the Arctic.
601108-601208	The United States agrees to unconditional release of most U.S. military bases in the West Indies federation.
601114-601207	Nicaraguan troops repel rebel invasion force which crossed the Costa Rican border. U.S. naval units ordered to patrol off Guatemala and Nicaragua.
610103-610623	U.S. -Cuban diplomatic relations are severed.
610104-611217	The OAS institutes economic sanctions against the Dominican Republic. General Trujillo is assassinated.
610124-610203	The Portuguese liner Santa Maria is seized by Portuguese rebels on the high seas.

Time Period	Crisis Identification
610205-610828	Angolan rebels continue to resist the Portuguese in a series of riots and terrorist attacks.
610411-611211	Vice President Johnson and General Taylor visit the Republic of Vietnam. The first U.S. military units arrive in the Republic of Vietnam.
610412-	Soviet cosmonaut becomes the first man to orbit the earth.
610516-610817	Pro-U.S. military junta seizes control in South Korea.
610607-	Bolivia is placed in a state of seige after thwarting a Communist overthrow plot.
610608-611229	The Soviet Union protests to the United States and Britain that a West German Bundesrat meeting in West Berlin might endanger the peace.
610617-611121	Soviet Union resumes nuclear testing in the atmosphere. U.S. underground tests are resumed.
620102-620405	Continued tensions over Berlin.
620129-631010	Nuclear test ban conflict.
620131-	The OAS votes to expel Cuba from inter-American affairs.
620224-620309	Buildup to Vietnam war.
620425-621104	The United States resumes nuclear tests in the Pacific.
620506-621201	Taiwan Straits crisis.
620512-620701	The United States deploys troops in Thailand.
620922-621106	Chlorine barge WYCHEM 112, which sank in Mississippi River near Natchez, Mississippi, in March

Time Period	Crisis Identification
	1961, salvaged by U.S. Public Health Service with Army assistance.
621020-621120	India-China conflict.
621022-630107	Cuban missile crisis.
630119-	Japanese Defense Agency reportedly received information on the manufacture of two nuclear devices by Communist China.
630220-630330	Two Cuban-based MIG's fire rockets near disabled U.S. shrimp boat ALA, adrift in international waters 60 miles north of Cuba. President Kennedy orders Defense Department to take all necessary action to prevent such attacks.
630422-	Units of U.S. 7th Fleet sent to Gulf of Siam as a "precautionary measure."
630428-630603	Haiti-Dominican dispute.
630508-630512	President Kennedy dispatches Federal troops to bases near Birmingham after bombings touch off a 3-hour riot.
630524-	The United States reveals a promise to India to provide long-term military aid to cope with any renewed attack by Communist China.
630708-631231	The United States bans virtually all financial transactions with Cuba.
630723-	Agreement announced for further revision of treaty relationships between the United States and Panama concerning the Canal Zone.
630730-630803	U.S. Army patrols ordered to track down North Korean infiltrators into South Korea.
630828-	Massive civil rights demonstration in Washington D.C., carried out without incident.

Time Period	Crisis Identification
631011-631104	The United States protests strongly and repeatedly to the Soviet Union against the blocking of a U.S. military convoy by Soviet troops outside West Berlin.
631101-	Diem government overthrown in bloodless coup.
631122-631125	President Kennedy assassinated.
631221-640406	Continued trouble in Cyprus. U.S. Navy prepares for evacuation.
640109-640403	Canal Zone flag riots.
640112-640407	African rebels overthrow Arab Government of Zanzibar. U.S.S. Manley evacuates dependents. Zanzibar orders expulsion of last U.S diplomat on island.
640123-	British forces go into action in Kenya, Tanganyika, and Uganda to put down mutinies by African troops. U.S.S. Manley stands by to evacuate U.S. civilians.
640128-640131	Soviet fighters shoot down unarmed U.S. jet trainer over East Germany.
640203-640206	The United States seizes four Cuban fishing vessels in U.S. territorial waters off coast of Florida. Cuba retaliates by cutting off normal water supply to U.S. Naval Station at Guantanamo.
640204-640601	Evacuation of U.S. civilians authorized after two bombs explode in U.S. Embassy in Cyprus.
640218-	State Department announces curtailment of military aid to France, Morocco, Spain, Britain, and Yugoslavia to penalize them for trading with Cuba.
640223-640822	Libya announces it will not renew leases of U.S. or British military bases.
640310-640322	Soviet air defense forces shoot down U.S. jet

Time Period	Crisis Identification
	reconnaissance bomber that accidentally crosses into East German airspace.
640400-640410	The United States retaliates for travel ban on four of its embassy attaches in Moscow by restricting all Soviet military attaches in the United States to the Washington area.
640420-640529	Further U.S.-Cuban tensions.
640621-640804	President Johnson authorizes use of 200 unarmed naval personnel to assist in search for three civil rights workers who disappeared after being released from jail in Mississippi.
640802-640805	Tonkin Gulf incidents.
641016-	Communist China announces successful explosion of its first atomic bomb.
641028-	Cambodia shoots down U.S. C-123 killing eight Americans.
641105-	Soviet Union threatens the safety of international flights by Western airlines in the East German air corridors en route to and from Berlin.
641116-	Communist China claims it shot down a pilotless U.S. reconnaissance plane over south-central China.
641124-641201	Belgian paratroopers dropped from U.S. planes occupy Stanleyville but are unable to prevent execution of white hostages by Congolese rebels.
650107-651214	Policy changes and unrest in Indonesia. Attempted Communist coup.
650205-651211	Communist China announces formation of a patriotic front aimed at overthrowing the Thai Government. The United States begins construction of a military complex in Thailand designed to cope with any expansion of the war in Vietnam.

Time Period	Crisis Identification
650304-	Soviet troops and police disperse 2,000 students attacking U.S. Embassy in Moscow.
650307-650817	Race riots in the United States: Selma, Alabama; Bogalusa, Mississippi; Watts, Los Angeles.
650403-	The United States accuses the Soviet Union of dangerous harassment of U.S. naval operations on the high seas.
650409-651204	Indian and Pakistani troops clash in the Rann of Cutch.
650425-651219	Army rebellion in Dominican Republic followed by U.S. landing of division-size force.
650506-651217	Rhodesian independence. Sanctions imposed.
650719-	France protests intrusion of U.S. photo-reconnaissance jet over French nuclear production facilities.
650812-651028	Arab-Israeli armed clashes and guerrilla raids flare up sporadically.
650813-	The United States withdraws embassy staff from Brazzaville, Republic of Congo.
660117-	B-52 and KC-135 collide over Spanish coast and four H-bombs are lost.
660221-660331	France begins to sever relations with NATO, starting with announcement by De Gaulle that France will assume control of all NATO bases.
660527-	Castro orders a "state of alert" after a Cuban soldier is killed outside a U.S. Guantanamo Bay installation.
660712-660715	National Guard restores order in Chicago after three nights of riots.

Time Period	Crisis Identification
660916-	Chinese Defense Minister accuses the United States of bombing Chinese territory.
670111-670214	Sino-Soviet crisis.
670514-670611	Six-Day War.
670608-	U.S.S. Liberty attacked by Israeli fighters off the Sinai Peninsula.
670626-	U.S. Air Force plane shot down over Hainan Island.
670723-670730	Detroit riots.
670821-670823	People's Republic of China downs two U.S. Navy jets over Chinese territory.
670000-	U.S. forces withdraw from France.
671021-671022	Anti-war march on the Pentagon.
680121-	North Korean commandoes attack ROK "Blue House."
680122-680228	U.S. B-52, carrying four H-bombs, crashes near Thule.
680123-681222	North Korean gunboat captures U.S.S. Pueblo.
680214-680328	The United States announces resumption of arms shipments to Jordan.
680404-680422	Assassination of Martin Luther King, Jr., city riots.
680717-	Cambodia holds U.S. landing craft and crew for ransom.
680414-	North Korean troops cross demilitarized zone and ambush U.S. truck.

Time Period	Crisis Identification
680612-680703	The United States, Britain, and France issue joint statement denouncing as invalid East German restrictions on travel to and from West Berlin.
680702-	U.S. commercial airliner forced to land on Soviet island in Kuriles.
680717-681016	Crisis over Czechoslovakia.
680830-	President Johnson warns the Soviet Union against further aggression in East Europe as rumors of invasion of Romania grow.
680917-680918	The United States, Britain, and France warn the Soviet Union that any effort to use military force against West Germany will bring "immediate" Allied response.
681209-681212	Two U.S. destroyers begin cruise in the Black Sea despite Soviet protest.
690126-720515	Japanese Prime Minister Sato demands that the United States restore Okinawa to Japan. The United States agrees.
690130-	President Nixon orders Department of Defense to develop plan to create an "all-volunteer" Army.
690214-690216	Anti-U.S. rioting in Istanbul.
690301-	East German border guards seal main access routes to West Berlin for 2 hours.
690415-690426	Navy EC-121 shot down by two North Korean MIG's off Korean coast.
690427-690429	National Guard moves into Cairo, Illinois, after three nights of racial conflict.
690515-	Rioting at Berkeley between police and National Guard and demonstrators.

Time Period	Crisis Identification
690523-690604	Tense relations in South America. Peru cancels visit by Governor Rockefeller when the United States suspends sales of military equipment to retaliate for seizure of U.S. tuna boats. Visit to Bolivia cut to 3 hours. Venezuela requests that visit be postponed. Chile requests cancellation.
690603-690815	U.S. destroyer Frank E. Evans collides with Australian aircraft carrier Melbourne in South China Sea.
690722-	Department of Defense admits that lethal nerve gas munitions had been shipped to U.S. overseas forces.
690817-691203	North Korea shoots down U.S. helicopter.
691014-	Philippines request negotiations to revise agreement covering U.S. military bases in the Philippines.
691115-	Anti-war protests in Washington, D.C., and throughout the United States.
691125-	President Nixon orders destruction of U.S. germ warfare stocks.
691223-	Formal agreement announced for withdrawal of all U.S. personnel from Wheelus Air Force Base in Libya.
700103-700731	Israeli-United Arab Republic (UAR) conflict.
700218-	U.S. Embassy in Manila attacked by 2,000 youths.
700325-700400	President Nixon orders Federal troops into New York City to handle mail during the strike of postal workers.
700605-	North Korea claims it sank U.S. "spy ship" in its territorial waters.

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700901-700923	Syria-Jordan crisis.
701021-701110	U.S. Air Force plane with two U.S. general officers lands in Soviet Armenia instead of Turkey as planned.
701123-701221	Lithuanian seaman attempts to defect. Seeks asylum in the United States by boarding U.S. Coast Guard cutter. Coast Guard officers force him to return.
70000-	Operation RED HAT: withdrawal of toxic munitions from Okinawa to Johnston Island.
710108-	Bomb explodes outside a Soviet cultural building in Washington, D. C.
710118-710127	U.S. suspends arms sales to Ecuador in retaliation for seizure of U.S. tuna boats fishing within 200 miles of the Ecuadorian coast.
710125-710127	U.S. Embassy in Moscow protests against harassment of newsmen.
710126-	U.S. force in civilian clothes lands at Phnom Penh airport to retrieve damaged helicopters.
710423-710508	Mass rallies calling for end of war in Vietnam held in Washington, D. C., and San Francisco. Protestors fail to close down the U.S. Government.
710617-711110	The United States and Japan sign a treaty to return Okinawa and southern Ryukus to Japan in 1972.
710910-711115	Seating of Communist China in United Nations; expulsion of Taiwan.
710910-710914	Defense Department provides security for U.S. Governor's conference in Puerto Rico.
711122-720110	India-Pakistani war over Bangladesh.
711215-	U.S. freighter sinks in Bahamian waters after being fired on and rammed by Cuban gunboat.

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720114-	U.S. Congressman expelled from Soviet Union.
720416-	Soviet ships bombed in Haiphong.
720625-	French nuclear tests.
720718-	Sadat expels Soviet military advisors.
721007-	The United States breaks off talks with Micronesia over independence.
721101-721108	American Indians occupy Bureau of Indian Affairs headquarters in Washington.
730108-	Fierce fighting between Israeli and Syrian forces on Golan Heights.
730321-	Libyan fighter planes attack unarmed U.S. C-130 off Mediterranean coast.
730323-740809	Watergate crisis in the United States.
731006-731024	Mideast war. Egyptian-Syrian forces attack Israel.
731017-731122	Arab states embargo oil shipments to the United States.
731021-731025	DEFCON 3 called in response to indication of Soviet moves to place troops in the Mideast.
731029-731108	Ugandan President Idi Amin orders U.S. Marine guards at Embassy out of the country. United States closes Embassy and withdraws its Charge d'Affaires.
731127-	Panama resumes talks with the United States about a new treaty for the Canal Zone.
740226-741128	Unrest in Ethiopia as Army units mutiny in Asmara.
740315-	Nixon accuses European Economic Community (EEC)

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	and Europe of policy of "confrontation and even hostility" with the United States regarding EEC intention to cooperate with Arab countries on oil embargo. Threatens to reduce number of troops in Europe.
740425-740713	Military coup in Portugal.
740518-	India explodes nuclear device.
740715-740730	Makarios overthrown in Cyprus. Greek-Turkish relations worsen.
740809-	President Nixon resigns after Watergate affair. Gerald Ford sworn in.
741015-	President Ford refuses Federal troops to quell racial violence in Boston.
750114-	Secretary of State announces that the Soviet Union had rejected trading relationship with the United States based on Trade Act, which linked trade to free emigration.
750205-	The United States ends military aid to Turkey because of no progress in settlement of Cyprus dispute. Turks close bases.
750213-	Turkish Cypriots proclaim separate state.
750512-750514	Cambodia seizes the Mayaguez.
750515-750626	Anti-American demonstrations in Laos. Three AID officials seized. U.S. Embassy evacuates all Americans.
750626-	State of emergency proclaimed in India by Mrs. Gandhi.
751110-751231	Civil war in Angola with Soviet arms and Cuban troops supporting Communist faction.